Contributions to the Nearby Stars (NStars) Project: Spectroscopy of Stars Earlier than M0 within 40 parsecs: The Southern Sample

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ABSTRACT

We are obtaining spectra, spectral types and basic physical parameters for the nearly 3600 dwarf and giant stars earlier than M0 in the *Hipparcos* catalog within 40pc of the Sun. Here we report on results for 1676 stars in the southern hemisphere observed at Cerro Tololo Interamerican Observatory and Steward Observatory. These results include new, precise, homogeneous spectral types, basic physical parameters (including the effective temperature, surface gravity, and metallicity, [M/H]) and measures of the chromospheric activity of our program stars. We include notes on astrophysically interesting stars in this sample, the metallicity distribution of the solar neighborhood and a table of solar analogues. We also demonstrate that the bimodal nature of the distribution of the chromospheric activity parameter $\log R'_{\rm HK}$ depends strongly on the metallicity, and we explore the nature of the "low-metallicity" chromospherically active K-type dwarfs.

Subject headings: Galaxy: solar neighborhood—stars: abundances—stars: activity—stars: fundamental parameters—stars: late-type—stars: statistics

1. Introduction

This is the second in a series of three papers which present results of a joint study of the nearby solar-type stars under the aegis of

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the NASA/JPL Nearby Stars/*Space Interferometry Mission* Preparatory Science Program. The goal of this project is to obtain spectroscopic observations of all 3600 main sequence and giant stars with spectral types earlier than M0 in the *Hipparcos* catalog (ESA 1997) within 40pc of the Sun. We have obtained blue-violet classification-resolution (1.5 - 3.6Å) spectra for all of these stars to date. These spectra are being used to obtain homogeneous, precise, MK spectral types. In addition, these spectra are being used in conjunction with synthetic spectra and existing intermediate-band Strömgren *uvby* and broadband VRI photometry to derive the basic astrophysical parameters (the effective temperature, gravity, and overall metal abundance [M/H]) for many of these stars. We are also using these spectra, which include the Ca II K and H lines, to obtain measures of the chromospheric activity of the program stars on the Mount Wilson system. The purpose of this project is to provide data that will permit an efficient choice of targets for both the *Space Interferometry Mission (SIM)* and the *Terrestrial Planet Finder (TPF)*. In addition, combination of these new data with existing kinematic data should enable the identification and characterization of stellar subpopulations within the solar neighborhood.

We report in this paper on southern hemisphere stars for which observations have been carried out on the 1.5 m telescope at Cerro Tololo Interamerican Observatory (CTIO) and the 2.3 m Bok Telescope at Steward Observatory (SO) which is situated on Kitt Peak. Other observations for this project have been carried out on the 0.8 m telescope of the Dark Sky Observatory (DSO) and the 1.8 m telescope at the David Dunlap Observatory. Observations of 664 stars carried out at DSO were the subject of the first paper of this series (Gray et al. 2003) (hereinafter paper I). The remaining stars in our sample will be reported on in the third paper of this series (Gray et al. 2007, in preparation).

2. Observations and Calibration

The observations reported in this paper were made with the 1.5 m telescope at CTIO and the 2.3 m Bok telescope at Steward Observatory. The CTIO observations were carried out using the Loral 1200×800 CCD on the Cassegrain spectrograph. Grating #58 was used in the second order with the $CuSO_4$ order-blocking filter and a slit size of 86μm to give a nominal resolution of 2.6Å (2 pixels) with a wavelength range of $3800 - 5150$Å. However, in practice, the actual resolution of these spectra is closer to 3.5Å. These spectra were reduced using standard methods using IRAF[1]. The Loral CCD on the CTIO 1.5m Cassegrain spectrograph has a number of blemishes which affected these spectra. In particular, one blemish affects the $4058 - 4069$Å region of these spectra; we carefully positioned the spectra so that this blemish did not affect the important Sr II λ4077 line used in luminosity classification. Another blemish affected about 50% of the CTIO spectra, causing a distortion in the violet half of the G-band. In total, we had 4 observing runs at CTIO, each lasting 5 - 7 nights. Table 1 presents a log of these observing runs.

The Steward Observatory observations were carried out using the Boller & Chivens spectrograph with the ccd20 CCD (1200×800 pixels) on the Bok 2.3 m telescope. The spectrograph was used with the 600 g/mm red-blazed grating in the second order, the Schott 8612 order blocking filter and a slit size of $2.5''$ to give a resolution of 2.6Å and a wavelength range of $3800 - 4960$Å. These spectra were likewise reduced using standard methods with IRAF. We had 9 observing runs on the 2.3 m Bok telescope (see table 1).

For stars with spectral types of G8 and earlier, the CTIO and SO spectra were rectified using an X Window System program xmk19, written by one of us (R.O.G.) and were used in that format for both spectral classification and the determination of the basic physical parameters.

However, for the late-type stars (G8 and later) rectification is problematic as no useful "continuum" points can be identified. For that reason, we have attempted to flux calibrate these spectra even though they were obtained with a narrow slit. For this purpose, we regularly obtained spectra of a number of spectrophotometric standard stars (Hamuy et al. 1992) during the observing runs at both CTIO and SO. These standard obser-

[1]IRAF is distributed by the National Optical Astronomy Observatory which is operated by the Association of Universities for Research in Astronomy, Inc. under cooperative agreement with the National Science Foundation

Table 1
Observing Log

Telescope	Dates
SO Bok 2.3 m	Dec 21 — 23, 2000
CTIO 1.5 m	Feb 4 — 9, 2001
SO Bok 2.3 m	Mar 11 — 12, 2001
SO Bok 2.3 m	Apr 8 — 9, 2001
SO Bok 2.3 m	Jun 1 — 5, 2001
CTIO 1.5 m	Aug 2 — 9, 2001
SO Bok 2.3 m	Sep 8 — 10, 2001
SO Bok 2.3 m	Nov 24 — 27, 2001
SO Bok 2.3 m	Jan 1 — 2, 2001
SO Bok 2.3 m	Jun 16 — 19, 2002
CTIO 1.5 m	Jun 23 — 27, 2002
CTIO 1.5 m	Dec 10 — 15, 2002
SO Bok 2.3 m	Mar 11 — 13, 2003

vations have been used to remove approximately the effects of atmospheric extinction and to calibrate the spectrograph throughput as a function of wavelength. Except for observations made at high airmasses, this procedure yields calibrations of *relative* fluxes with accuracies on the order of $\pm 10\%$. We require greater accuracies, however, for the determination of the basic physical parameters, and so we have applied the technique of "photometrically correcting" these fluxes using Strömgren photometry (taken from the *General Catalog of Photometric Data* by Mermilliod, Mermilliod & Hauck 1997). This technique was described in detail in paper I. However, because these spectra span only two Strömgren bands (as opposed to the three bands employed in paper I), an additional flux correction procedure was employed during the analysis to give the basic physical parameters (see below).

All of the spectra obtained for this paper are available on the project's Web site.[2] The rectified spectra found on that Web site have an extension of .rec. Spectra which have been flux calibrated, but not photometrically corrected, are normalized to unity at a common point (4503Å) and have an extension of .nor, whereas photometically corrected spectra are available in a normalized format (.nfx) and in terms of absolute fluxes (.flx) in units of erg s^{-1} cm^{-2} $Å^{-1}$. Dates and times of observation and other information can be found in the "footers" of these spectra.

[2]http://stellar.phys.appstate.edu

3. Spectral Classification

The stars in this paper were classified on the MK system by direct visual comparison on the computer screen with MK standard stars selected from the list of "Anchor Points of the MK System" (Garrison 1994), the Perkins catalog (Keenan & McNeil 1989) and, for the late K- and early M-type dwarfs, Henry et al. (2002). Spectra of an extensive set of relevant standards were obtained on each telescope. A list of the standards used (and the actual spectra) can be found on the project Web site.

Paper I described the techniques we used to carry out the spectral classifications, and how we are ensuring the homogeneity of our spectral types, which we derive from spectra obtained on four different spectrographs. In short, this homogeneity is maintained by significant overlaps between the samples observed with the four telescopes employed by this project, as well as having a number of MK standards in common between the different samples. Out of the 1676 stars reported in this paper, 78 stars were observed at both CTIO and SO. Spectral types were assigned

independently for the two groups of stars. For the 78 stars in common, we find the following systematic difference in the spectral types:

$$\mathrm{ST_{CTIO}} - \mathrm{ST_{SO}} = 0.19 \pm 0.50$$

and thus the CTIO spectral types are systematically later than the SO spectral types by 0.2 spectral subclasses, with a scatter (one point) of one-half spectral subclass (note, a subclass is the difference, for example, between a K0 and a K1 star). For this comparison, we used the numbering system of Keenan (1984) to convert spectral types into numerical codes. We note that this very small systematic difference in the spectral types indicates a high degree of consistency between the northern and southern sets of MK Standards chosen for this work.

Our spectral types are multidimensional, as they include not only temperature and luminosity types, but also indices indicating abundance peculiarities and the degree of chromospheric activity.

As described in paper I, chromospheric activity is evident in our spectra through emission reversals in the cores of the Ca II K and H lines and, in more extreme cases, infilling and emission in the hydrogen lines. We continue the use of the spectral classification notation we introduced in paper I to indicate increasing levels of chromospheric activity evidenced by these emission features: (k), k, ke and kee. In the first two cases, infilling is seen only in the K and H lines; in the last two, infilling and emission can be seen in the Balmer lines as well, especially at Hβ. Because chromospheric emission is time variable, these activity classes are necessarily time dependent. We have therefore noted the observation date in the notes to table 2 for those stars that have been designated either "ke" or "kee".

Spectral types for the stars analyzed in this paper can be found in Table 2. Figure 1 shows a classical HR diagram (M_V versus spectral type) for the stars in this paper and paper I. One of the reasons why spectral types are valuable to this project is that they enable us to refine the stellar census in the solar neighborhood. Note the stars in Figure 1 which scatter below the main sequence (white dwarfs are not plotted in this diagram). These stars, without exception, have *Hipparcos* (ESA 1997) parallaxes which place them within 40pc, but which have large parallax errors, mostly due to binarity. These stars are indicated in the notes to table 2. Notice as well in Fig 1 a group of "dwarf stars" which lie above the main sequence (too far, in most cases, to be explained by binarity) and which overlap the subgiant branch. These are an interesting and diverse group of stars. Most (HIP 3185, 14086, 18432, 46404 and 110618) are high-velocity, metal-weak stars (for which the luminosity class is notoriously difficult to determine). All of these stars have V components of their heliocentric space velocities < -50 km s^{-1} and thus are probably thick disk or halo stars, and are most likely evolved. Two others are RS CVn binaries (HIP 16846 and HIP 84586 = HD 155555). HD 155555 is probably a pre-main-sequence binary. Finally, one other star, HIP 117815, is a W UMa eclipsing binary.

Spectral types also provide beginning values for our determination of the basic physical parameters and provide a check on the derived physical parameters. But, most importantly, spectral types place a star within the context of a broad population of stars, and enable us to pick out peculiar and astrophysically interesting stars.

4. Basic Physical Parameters

An important goal of this project is to determine the basic physical parameters—the effective temperature, the surface gravity and the overall metallicity—for as many of our program stars as possible.

4.1. The Determination of the Basic Physical Parameters

We described in paper I the technique that we use to determine the basic physical parameters for our program stars, and we refer the reader to that paper for the details. In summary, we determine the basic physical parameters by carrying out a simultaneous fit, using a variant of the multidimensional downhill simplex method (Press et al. 1992), between 1) the observed spectrum and a library of synthetic spectra and 2) observed fluxes from Strömgren *uvby* and Johnson/Cousins *VRI* photometry (taken from Mermilliod, Mermilliod & Hauck 1997) and theoretical fluxes based on Kurucz (1993) ATLAS9 stellar atmosphere models (computed without convective overshoot). The

Table 2

Spectral Types, Basic Physical Parameters and Chromospheric Indices

HIP	HD	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
57	224789	K1 V	···	4999	4.48	1.0	-0.17	···	0.377	-4.568	A	···	CTIO
194	225003	F1 V	···	7043	4.07	2.0	-0.12	···	···	···	···	···	CTIO
296	225118	G8.5 V	···	5420	4.43	1.0	0.14	···	0.325	-4.570	A	···	SO
436	55	K4.5 V	···	···	···	···	···	···	0.338	-4.901	I	···	CTIO
522	142	F7 V	···	6257	3.99	2.7	-0.18	···	0.171	-4.853	I	···	CTIO
560	203	F3 Vn	···	6715	3.85	1.1	-0.19	*	···	···	···	···	SO

Note.—Table 2 is presented in its entirety in the electronic edition of the Astronomical Journal. A portion is shown here for guidance regarding its form and content. See also section 6 for notes on astrophysically interesting stars. The column headings have the following meanings: HIP stands for the designation in the *Hipparcos* Catalogue (ESA 1997); HD for the HD designation; SpT for the spectral type—note that some long spectral types are contained in the notes. An asterisk in column "N1" refers to a note on the spectral type. Headings Teff, $\log g$, ξ_t and [M/H] refer to the basic physical parameters—the effective temperature (kelvins), the logarithm of the surface gravity (cm s^{-2}), the microturbulent velocity in kilometers per second, and the overall metal abundance on a logarithmic scale where [M/H] = 0.0 refers to solar metallicity. An asterisk in column "N2" refers to a note on the fitting process; a K in this column indicates that the method used to determine the basic physical parameters was that adopted for the G and K giants. S_{MW} is the chromospheric activity index on the Mount Wilson system; $\log R'_{\rm HK}$, a measure of the chromospheric flux in the Ca II K and H lines; "AC" indicates the chromospheric activity class—(VI) very inactive; (I) inactive; (A) active; (VA) very active. Column "Obs" indicates the source of the spectrum—(CTIO) the 1.5 m Cassegrain spectrograph at Cerro Tololo Interamerican Observatory and (SO) the Cassegrain spectrograph on the Bok 2.3 m telescope of Steward Observatory. An asterisk in column "N3" refers to a note on chromospheric activity.

library of synthetic spectra was calculated with the stellar spectral synthesis code SPECTRUM (Gray & Corbally 1994)[3] using ATLAS9 models. A graphics program, xfit21, written by one of us (ROG) is used to set the initial parameters which are then polished by the simplex engine. This graphical front end allows us to confirm that the simplex engine has indeed found the optimal global solution, and it also allows us to tweak that solution if necessary. The program xfit21 allows the user to apply rotational broadening when necessary, and also to deredden the observed fluxes. However, since all of our stars are within 40pc, we have assumed the reddening for our stars to be zero.

As detailed in paper I, for certain spectral types it was necessary to constrain one or more of the physical parameters in order to achieve reasonable solutions. This was especially the case for late-G and K dwarfs and giants. For the late-G and K dwarfs, neither our spectra nor the photometry strongly constrain the surface gravity. For these stars we have therefore constrained $\log g$ to the value implied by the *Hipparcos* parallax and the mass-luminosity relationship (Gorda & Svechnikov 1998). We have further constrained the microturbulent velocity ξ_t to be 1.0km s^{-1}. However, we encountered an additional difficulty with the SO and CTIO spectra. Because these spectra have a shorter spectral range than the DSO 3.6Å spectra used in paper I for the late-G and K dwarfs, and thus span only two Strömgren bands (v and b) instead of three, only a linear instead of a second order spline could be used to apply the photometric correction. In addition, a significant number of the SO spectra were obtained at quite high air masses, and thus the flux calibration for those spectra is quite unreliable. Because the accuracy of the flux calibration of the observed spectrum is of some importance in obtaining a reliable fit to the basic physical parameters for the late-type stars, we adopted the following procedure to overcome this difficulty, made possible by the xfit21 program: Having first constrained the gravity to the value implied by the mass-luminosity relation and the *Hipparcos* parallax, and fixed ξ_t at 1.0 km s^{-1}, we set [M/H]= 0.0 and then adjusted the effective temperature to minimize the residuals between the photometric and theoretical fluxes. We then visually adjusted [M/H] to match the line strengths in the observed and synthetic spectra, and then iterated until the match was satisfactory. At this point, if the photometric correction of the observed spectral fluxes was satisfactory, the residuals between the observed and synthetic spectrum would be flat. If, however, the

[3]see http://www.phys.appstate.edu/spectrum/spectrum.html

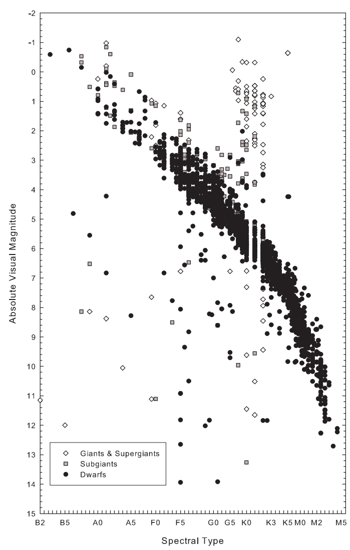

Fig. 1.— An observational HR diagram formed from the spectral types of the 1670 stars reported in this paper and the 665 stars reported in paper I. The absolute magnitudes, M_v, are calculated using *Hipparcos* (ESA 1997) parallaxes. The stars scattering below the main sequence in this figure all have large parallax errors and are listed in the notes to Table 2. These stars are all evidently more distant than 40pc.

photometric correction was not satisfactory, these residuals might display a slope or a shallow curve as a function of the wavelength. If such was the case, the synthetic spectrum was used as a template to correct the fluxes in the observed spectrum. The simplex engine was then allowed to polish the final solution. While this correction procedure could be iterated, in practice we found one application of this procedure gave a satisfactory fit to the basic physical parameters. Illustrations of typical simplex solutions may be found in paper I.

Effective temperature determinations for the stars in common between SO and CTIO give us an excellent opportunity to test whether this modified method introduces any systematic error into the determination of the basic physical parameters. The reason for this is that most of these stars were obtained at high airmass from SO, but were observed nearly overhead from CTIO. For the 56 dwarf stars in common between SO and CTIO with basic physical parameters, we find the following systematic difference in the effective temperatures:

$$\mathrm{T_{CTIO} - T_{SO} = 0K \pm 40K}$$

where the uncertainty is for a single point. This also gives a good estimate for the internal error in the effective temperatures; the above comparison suggests that the internal precision in the temperature determinations is on the order of ±30K. For those dwarfs with $V-K$ photometry, we may also compare our temperature scale with that of the Infrared Flux method (Blackwell & Lynas–Gray 1994) which is essentially independent of theoretical models (see also paper I). We find,

$$\begin{array}{lcrcrl} \mathrm{T_{CTIO} - T_{IRFM}} & = & -4\mathrm{K} & \pm & 16\mathrm{K} & \text{(29 stars)} \\ \mathrm{T_{SO} - T_{IRFM}} & = & 32\mathrm{K} & \pm & 29\mathrm{K} & \text{(12 stars)} \end{array}$$

and, from paper I,

$$\mathrm{T_{DSO} - T_{IRFM}} \quad = \quad 28\mathrm{K} \quad \pm \quad 17\mathrm{K} \quad \text{(50 stars)}$$

where the error displayed in all three cases is the error in the determination of the zeropoint difference, and not the scatter around the IRFM relationship. Combining the CTIO and the SO datasets, the scatter around the IRFM relation is ±90K, some of which is due to errors in the $V-K$ photometry (a change of 0.04 in $V-K$ at $V-K = 2.00$ results in a temperature change

of 50K). A plot of the residuals with respect to the IRFM relation shows no trend with effective temperature over the range 4600 – 8000K. All three datasets show acceptably small and statistically indistinguishable zeropoint differences with the IRFM method.

There are now a number of spectroscopic studies in the literature dealing with nearby stars with which we may profitably compare our temperature scale. Allende Prieto et al. (2004) used high resolution spectroscopy to study the stars with $M_V < 6.5$ within 14.5 pc of the sun. They base their temperatures on the calibrations of Alonso et al. (1996, 1999) who in turn derived their calibrations of $B-V$ and Strömgren photometry from the IRFM method. Our temperatures compare well with theirs, except for a slight trend in the residuals which amounts to our temperatures being about 50K cooler than theirs at 5000K, and 120K hotter at 6000K. Once this trend is removed, the temperatures agree to within ±70K. The origin of this trend is not clear. Luck & Heiter (2005) have studied the stars with $M_V < 7.5$ within 15 pc of the sun, but, unlike Allende Prieto et al., their atmospheric parameters were determined by requiring the abundance of iron to be independent of the excitation energy simultaneously with requiring that Fe I and Fe II give identical iron abundances. Our temperatures compare quite favorably with theirs with a zeropoint offset of 89K (our temperatures are cooler) and a scatter of ±108K, but no trend in the residuals. Finally, Valenti & Fischer (2005) have studied 1040 nearby F, G and K-type stars which have been observed in the Keck, Lick and AAT planet search programs. They have used high resolution spectra and a pipeline multivariate method to determine their basic physical parameters. Our temperature scales are virtually identical for the F and G-type stars, but cooler than $T_{\rm eff}$ = 5200K, their temperatures begin to systematically deviate from ours (our temperatures are cooler) with the mean deviation approaching 100K at 4800K. For stars with effective temperatures greater than 5200K, the scatter in the comparison of our temperatures with those of Valenti & Fischer is only ±81K, with a zeropoint difference of 14K (our temperatures are cooler).

In paper I we adjusted the zeropoints of our [M/H] determinations using well studied stars in the Cayrel de Strobel, Soubiran & Ralite (2001) [Fe/H] catalog, and we have done the same in this paper. Table 3 lists these zeropoint corrections, which are generally quite small and similar in magnitude to those found in paper I with the exception of the K giants (see below).

It is of interest to compare the [M/H] scales for the CTIO and SO spectra. We find, for the 56 stars in common

$$[\mathrm{M/H}]_{\mathrm{CTIO}} - [\mathrm{M/H}]_{\mathrm{SO}} = 0.00 \pm 0.08$$

where the quoted error is for a single point. Of course, the negligible zeropoint difference is not surprising, as these metallicities include the zeropoint corrections of table 3, but the quoted error can be used to estimate the internal precision of the [M/H] determinations. This is evidently on the order of ±0.06 dex. Once the zeropoints have been applied (the [M/H] values in Table 2 include these zeropoint adjustments), the agreement with mean values in the [Fe/H] catalog is excellent, with a scatter of ±0.09 dex. Comparing the [M/H] values in Table 2 with the Valenti & Fischer (2005) sample, however, we find an additional zeropoint difference of 0.07 dex (our values are more negative), but a scatter of only ±0.09 dex.

The method of determining the basic physical parameters for late G and K giants was essentially the same as described in paper I, although our improved method of applying a flux template at the midpoint of the fitting process (described above) appears to have significantly improved the quality of the fit for the K giants. Indeed, the zeropoint correction for the K giant [M/H] scale (see table 3) is considerably smaller than reported in paper I, and is now comparable to the corrections for the dwarf stars.

Figure 2 is a theoretical HR diagram based on results from paper I and this paper. Note the excellent match between the position of the giant branch and the isochrones, as well as an indication of an "edge" in the distribution of stars corresponding to the 1.8 Gyr isochrone. We will analyze this diagram in paper III for the complete sample.

5. Chromospheric Emission

All of the spectra obtained for this project include the Ca II K and H lines and thus can be used to obtain measures of the chromospheric emis-

Table 3
Zeropoint Corrections to [M/H] scale

Stellar Type	CTIO	SO
F and G dwarfs	+0.02	+0.04
G and K dwarfs	+0.07	+0.07
G and K giants	+0.08	+0.06

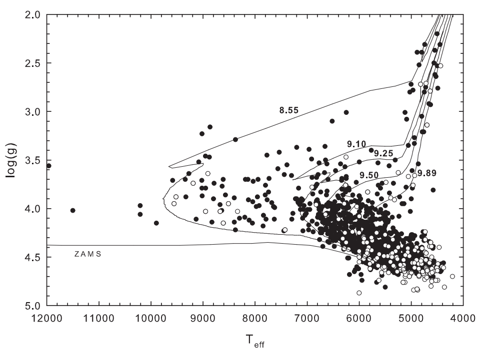

Fig. 2.— An astrophysical HR diagram based on results reported in this paper and paper I. The isochrones, included for illustrative purposes, are from Lejeune & Schaerer (2001). The isochrones are labeled with the logarithm of the age (8.55 = 350 million years, 9.10 = 1.3 Gyr, 9.25 = 1.8 Gyr, 9.50 = 3.5 Gyr and 9.89 = 7.8 Gyr). The filled circles are for stars with [M/H] > -0.40, open circles for stars with [M/H] < -0.40.

sion via emission reversals in the cores of these very strong lines. This is an important measurement, as chromospheric emission can be an indication of the age of a star and/or its binary status. An age determination can be important for exoplanet searches, especially for both the nulling-interferometer and coronographic designs of the *Terrestrial Planet Finder*, because strong zodiacal light, scattered from a remnant protoplanetary disk, could mask weak planetary signals.

Paper I described in detail how we measure the chromospheric emission in our program stars. We follow the practice of the Mount Wilson chromospheric activity program (Baliunas et al. 1995) in measuring the fluxes in four bands; two of these bands, C_1 and C_2, are continuum bands located just shortward and longward of the K and H lines, and the K and H bands are centered on the cores of the K and H lines (see Fig 9 in paper I). Our K and H bands are 4Å wide, in contrast to the Mount Wilson 1Å bandpasses because of the lower resolution of our spectra. The chromospheric emission index is calculated, like the Mount Wilson index, with the equation

$$S = 5\frac{K+H}{C_1+C_2}$$

Because the CTIO and SO spectra have different resolutions, there is a different instrumental system for each. The ultimate goal is to transform these instrumental systems on to the system of the Mount Wilson project, but to ensure homogeneity in the chromospheric indices reported in this series of papers, we first transform these two instrumental systems to the DSO18 instrumental system established in paper I. The DSO18 instrumental system (S_{18}) is then transformed to the Mount Wilson system ($S_{\rm MW}$) using observations of a number of chromospheric activity "standards"—stars well

observed by the Mount Wilson group and which, at least in their database ending in 1995, show no significant long term secular trends (see table 5 in paper I). This transformation from S_{18} to $S_{\rm MW}$ was derived in paper I.

To derive the transformations between $S_{\rm CTIO}$ and S_{18} and between $S_{\rm SO}$ and S_{18} we observed as many of the chromospheric "standard" stars mentioned in the above paragraph as possible from CTIO and SO. The resulting transformations are linear:

$$\begin{aligned} S_{18} &= 0.949 S_{\rm CTIO} - 0.032 \quad & \sigma = 0.012 \\ S_{18} &= 0.904 S_{\rm SO} + 0.002 \quad & \sigma = 0.011 \end{aligned}$$

and are illustrated in Figure 3.

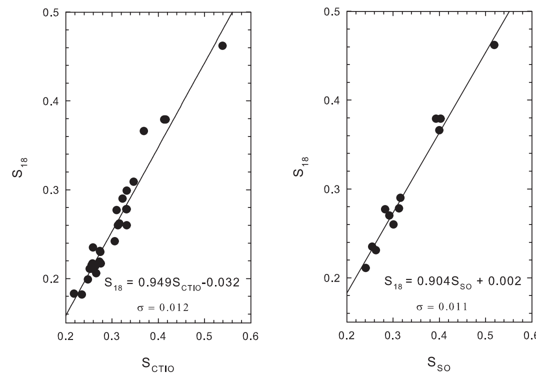

Fig. 3.— Transformations from the CTIO and SO chromospheric emission instrumental systems to the DSO18 instrumental system of paper I.

As explained in paper I, we have used the procedure of Noyes et al. (1984) to derive from $S_{\rm MW}$ the parameter $\log R'_{\rm HK}$ which is a measure of the chromospheric flux in the cores of the K and H lines. This parameter may be used to classify stars into the chromospheric activity categories "very inactive" (VI), "inactive" (I), "active" (A) and "very active" (VA) (see Fig 4). This parameter has been tablulated for stars in our sample with spectral types between F5 and M0 (see table 2). However, the reader should bear in mind that the transformation from $S_{\rm MW}$ to $\log R'_{\rm HK}$ becomes increasingly uncertain for stars with $B-V > 1.2$. In addition, this transformation is not well defined for $B-V < 0.5$. Thus, even though $\log R'_{\rm HK}$ is tabulated in table 2 for stars outside of this range, these values and the corresponding activity classifications should be treated with some caution. The distribution of this parameter with respect to metallicity is discussed in § 7.1, and that discussion is limited to stars with $0.5 < B-V < 1.2$.

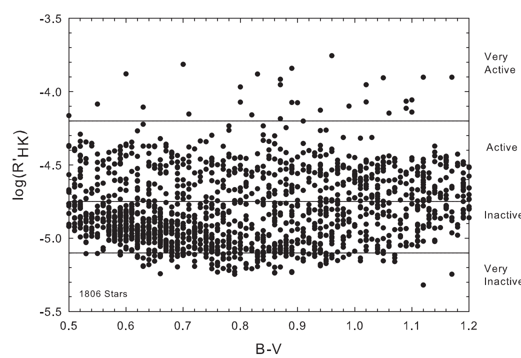

Fig. 4.— Plot of the chromospheric flux parameter $\log R'_{HK}$ vs. the $B-V$ color. This diagram allows the classification of stars into the chromospheric activity categories "very inactive", "inactive", "active" and "very active".

A brief note on the relationship between our spectral-classification notation for chromospheric activity (see § 3) and the classification into the activity classes VI, I, A and VA afforded by the $\log R'_{\rm HK}$ parameter is probably appropriate here. These two classification systems are generally in good agreement. For instance, nearly all of the "ke" and "kee" stars are either in the "A" (Active) or "VA" (Very Active) classes. However, the two systems are not redundant. The $\log R'_{\rm HK}$ classification uses information external to the spectrum, in particular, the $B-V$ index and a model of the photospheric flux in the K-line. It is also not defined for late K and early M dwarfs, nor does it

contain any information about emission in the hydrogen lines. The spectral classification notation, on the other hand, is self-sufficient; it may be used for M dwarfs and it also contains information on Balmer-line emission, which is not necessarily well correlated with emission in Ca II K (see Thatcher & Robinson 1993).

6. Notes on Astrophysically Interesting Stars

HIP 3961 = HD 5028: We were somewhat surprised to find that this metal-weak F6 star turns out to be in the chromospherically very active category. However, visual inspection of the spectrum verifies that the Ca II K & H lines are both shallow. It turns out that this star is both an X-ray source (Haberl et al. 2000) and a far-UV source (Bowyer et al. 1995).

HIP 2235 = HD 2454: An F5 dwarf with an over abundance of Strontium. Ba II 4554 also appears enhanced—see Tomkin et al. (1989).

HIP 16846 = HD 22468 = V711 Tau: K2: Vn k. This well-known RS CVn variable shows strong emission in Ca II K & H with infilling in Hβ. The spectral lines appear broad.

HIP 29804 = HD 43848: This K2 subgiant shows a strong Swan band at λ4737.

HIP 30476 = HD 45289: From our spectral type, basic physical parameters and chromospheric activity measurements, this star appears to be a very close solar twin (see § 7.2).

HIP 59750 = HD 106516: Both the SO and the CTIO spectra agree that this metal-weak F9 dwarf is a chromospherically active star. The CTIO spectrum, obtained on December 14, 2002 gives $\log(R'_{HK}) = -4.158$ (very active) and the SO spectrum, obtained on April 9, 2001 gives $\log(R'_{HK}) = -4.410$ (active). This star is an X-ray source, and *may* have been the source of the January 13, 1993 gamma-ray burst—see Shibata et al. (1997).

HIP 64478 = HD 114630: G0 Vp k. The entire spectrum of this chromospherically active star appears "veiled". The resonance/low-excitation lines (such as Ca I 4226, Fe I 4046, etc.) are particularly weak, the cores of Ca II K & H are shallow, and Hβ appears slightly filled in. See a related discussion in § 7.1.

HIP 71908 = HD 128898: This well-known SrCrEu Ap star is also characterized by a broad Ca II K-line.

HIP 76550: This star shows peculiar morphology in the λ4780 MgH band (violet side weak), seen in both the CTIO and SO spectra.

HIP 96635 = HD 185181: This is a chromospherically active subgiant K2 star and thus a possible PMS star. Note that Koen & Eyer (2002) have found that this star is a variable from Hipparcos photometry, but were unable to determine the type of variability.

HIP 98470 = HD 189245: This chromospherically very active late F-type star is an extreme ultraviolet source, a variable star and a rapid rotator (86 km s^{-1}).

Also see notes on specific stars in § 7.1, and the notes to table 2.

7. Results and Discussion

7.1. Stellar Activity and [M/H]

In paper I we demonstrated that the chromospheric emission parameter $\log R'_{\rm HK}$ has a bimodal distribution (see Figure 12 of that paper). This is a manifestation of the well-known Vaughan-Preston Gap (Vaughan & Preston 1980). However, it turns out that this bimodality is a strong function of metallicity (see Figure 5); for stars with [M/H] > -0.20, the distribution is strongly bimodal (Fig 5c), but the distribution is strictly single-peaked for stars of lower metallicity (Fig 5b). This is perhaps not too surprising, as metal-weak stars will, on the average, be older than metal-rich stars, and thus we should expect a smaller number of active metal-weak stars, but two things are remarkable: 1) the fact that there persists a tail of quite active stars even at quite low metallicities ([M/H] ≈ -0.50) and 2) the sudden change to a single-peaked distribution at [M/H]$= -0.20$. We also note that the low-metallicity peak is somewhat shifted towards less negative values of $\log R'_{\rm HK}$ (i.e. towards higher activity levels).

Let us consider this last point before we discuss points (1) and (2). The slight shift in the low metallicity peak towards higher activity levels can be understood as a metallicity effect on the fluxes in the four bands used in the calculation of the chromospheric activity parameters $S_{\rm MW}$ and

$\log R'_{\rm HK}$ (see § 5). To illustrate this, we have calculated both of these parameters using synthetic spectra with $T_{\rm eff}$ = 5000K and $\log g$ = 4.5 with [M/H] ranging from −1.0 to 0.5 (see table 4). Note that the activity class of these synthetic spectra (which do not include chromospheres) changes from very inactive (VI) for the metal-rich spectra to inactive (I) for the metal-weak spectra. This suggests a need to update the procedure of Noyes et al. (1984) to calculate $\log R'_{\rm HK}$ by including a correction factor for metallicity, but it also helps to explain the shift in the low-metallicity peak towards higher activity levels and the fact that only a few of the metal-weak stars in table 2 have activity classes of VI. However, it does not help to explain the presence of an extended tail of very active stars visible in Fig 5b, which brings us back to point (1) above.

The nature of these "low-metallicity" chromospherically-active stars may be explored by considering some examples.

HD 9054 = HIP 6856 = CC Phe is a chromospherically active K2 dwarf (K2+ V k) with $\log R'_{\rm HK} = -4.263$ (on the boundary between the Active and Very Active categories). We have calculated [M/H]= −0.66. This star is a strong X-ray source, and Torres et al. (2000) have found that this star is a member of a very young nearby association, HorA, in the vicinity of the active star ER Eri. In this context the metal-weak nature of this star is very difficult to understand.

HD 146464 = HIP 79958 = V371 Nor is a very active K3 dwarf (K3 V ke) which is not well studied. Its position coincides closely with 1RXS J161915.7-553023, an X-ray source. Kinematically, this star appears to be thin disk star ($U, V, W = 3, 1, 1$ km s^{-1})—all kinematics quoted in this paper are heliocentric space velocities in a right-handed coordinate system with U pointing toward the galactic center and are taken from Nordström et al. (2004)—but we have calculated [M/H]= −0.55.

Two BY Draconis variables from paper I are also found to have low metallicities. These stars are:

HD 45088 = HIP 30630 = OU Gem, which has a high eccentricity orbit ($e = 0.15$) and kinematics of a thin disk star: $U, V, W = +9, -4, -11$ km s^{-1}, but we found [M/H]= −0.83. Soderblom & Mayor

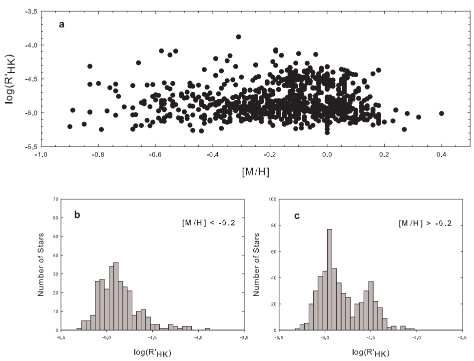

Fig. 5.— The distribution of the chromospheric activity parameter $\log R'_{\rm HK}$ for dwarf F, G and early K-stars as a function of metallicity. In (a), activity increases along the vertical axis, in (b) and (c) to the right. Panels (b) and (c) show histograms of the distribution of points in panel (a). Note that for stars with [M/H]> −0.2 the distribution is strongly bimodal, but it is single-peaked for [M/H]< −0.2. Also note that a tail of very active dwarf stars persists in the metal-weak distribution. Both of these points are discussed in § 7.1

Table 4
Activity Class and Metallicity

[M/H]	$B-V$	$S_{\rm MW}$	$\log R'_{\rm HK}$	AC
0.50	0.99	0.125	-5.279	VI
0.00	0.92	0.125	-5.245	VI
-0.50	0.87	0.134	-5.185	VI
-1.00	0.84	0.159	-5.054	I

Note.—Note: VI represents the "Very Inactive" and I the "Inactive" chromospheric activity classes (see text).

(1993) list this star as a possible member of the UMa Group (age ≈ 0.3 Gyr).

HD 218738 = HIP 114379 = KZ And, which also has kinematics of a thin disk star: $U, V, W = -8, -10, -3$ km s^{-1}. We found [M/H]$= -0.53$.

These four stars are surprisingly metal-weak for active, low-velocity stars. Our metallicities for three of these four stars are in good agreement with those of the Geneva-Copenhagen group (Nordström et al. 2004) who base their metallicities on a calibration of the Strömgren m_1 index. Nordström et al. (2004) do not give a metallicity for HD 146464. Other less extreme examples may be found by examining table 2. This observation, that many chromospherically active K dwarfs have "low" metal abundances is not new. For instance, Rocha-Pinto & Maciel (1998) examined the $\log R'_{\rm HK}$ index for a sample of G and K dwarfs and found that many of the most active stars had low values of the Strömgren m_1 index, which measures line blanketing in the violet part of the spectrum. Giampapa, Worden & Gilliam (1979) observed solar active and quiescent regions with the Strömgren $uvby$ system and found that the solar active regions are up to 35% more metal deficient than the quiescent regions, based on the m_1 index. Favata et al. (1997) also demonstrated the depression of the m_1 index for active K-stars, but obtained red spectra for a number of these stars and showed that these spectra gave normal (roughly solar) abundances. They suggested that the depression of the m_1 index is due to emission or infilling of the Hδ line which lies in the Strömgren v-band. However, a careful examination of the spectra of our four low-metallicity active K dwarfs does not show emission, or even infilling of the Hδ line (at least in ratio with nearby metallic lines), with the possible exception of HD 146464 which may show a slight infilling of the Hδ line. On the other hand, all of these stars show a marked weakening of the line spectrum in the blue-violet region (up to at least 4400Å) relative to solar-abundance chromospherically inactive stars of the same spectral types, easily apparent even on visual inspection (we did not use the MK K-dwarf standards for this comparison, as some of these standards are metal weak, while others are chromospherically active, and may show some veiling themselves). The veiling seems most pronounced in the Ca I 4226 line and in the vicinity of the CN 0,1 band with bandhead at 4216Å. Basri, Wilcots & Stout (1989), using high resolution spectra, have shown that the equivalent width of metallic lines in the blue-violet region can be reduced in highly active stars, which correlates well with what we see in our blue-violet spectra. Whether this infilling of the metallic lines is due to line emission or continuum emission is not clear at this point, but this phenomenon does seem to be the best explanation for the observed metallicity effect.

We note, however, that there are a few very active K dwarfs in our sample which do not seem to show a pronounced metallicity effect. For instance, HD 26354 (AG Dor), HD 111038 (LO Mus) and HD 220140 (V368 Cep) have K-line emission and $\log R'_{\rm HK}$ indices which place them in the very

active category, but have, according to our determinations, metallicities that are only slightly subsolar. Both HD 26354 and HD 220140 have been classified as RS CVn binaries. LO Mus is not well studied, but appears to be a BY Draconis star (Kazarovets et al. 1997). Other less extreme examples can be found in table 2. HD 26354 does not show any veiling, and even has a slightly stronger CN band than normal K2 solar-metallicity dwarfs (its gravity, however, is consistent with it being a dwarf and not a subgiant). HD 220140 also has a gravity consistent with a dwarf classification. HD 111038 shows marginal veiling, and HD 220140 shows some veiling, especially in the far violet (just longwards of the K & H lines) and in Ca I 4226, which also appears slightly weak in HD 111038. To add to the mystery, however, the Geneva-Copenhagen group (Nordström et al. 2004) find, from their calibration of the Strömgren m_1 index, that these three stars are quite metal-weak.

It is difficult to understand why some of these very active K dwarfs show a pronounced metallicity effect and veiling and others do not. Both groups contain active binary stars and both contain objects which are EUVE and X-ray sources. We speculate, however, that the chromospheres of these two groups may differ significantly. For instance, the "veiling" effect that is more prevalent in the metallicity-effect stars is largely seen in resonance or low-excitation lines of neutral metals in the violet region of the spectrum, such as Ca I 4226. The cores of such lines are formed in the temperature minimum region whereas the emission reversals in the Ca II K & H lines are formed higher in the chromosphere in G and K dwarfs. This may mean that the temperature structure and/or the density in the temperature minimum region is different in the metallicity-effect active K-dwarfs. Additional observations, to quantify and to determine the nature of the infilling of the metallic-line spectrum in the metallicity-effect objects, will be required to resolve this question.

We now consider point 2. The sudden change from bimodality to single-peaked behavior at [M/H]$= -0.2$ becomes even more pronounced when the metallicity effects discussed in the above paragraphs are taken into account, because many (although not all) of the active "low metallicity" dwarfs in the high activity tail in the [M/H] < -0.2 distribution really belong at [M/H] > -0.2. Two possible exceptions are HD 9770, an active triple (quintuple?) system, which has kinematics typical of an old disk star (see Eggen 1962; Watson et al. 2001) and BF Lyn, a BY Dra variable with kinematics ($U, V, W = -22, -51, -28$ km s^{-1}) suggestive of a thick disk star. This sharp transition from bimodality to single-peaked behavior at [M/H] $= -0.2$ suggests that the cause of this phenomenon is not primarily age related, but rather is associated with some parameter necessary for the generation of an active chromosphere which is switched off at this divide. We expect this parameter has something to do with rotation or, more specifically, differential rotation, but we do not have sufficient data to speculate further.

7.2. Solar Analogues

In Table 5 we have, for the benefit of users who are interested in solar analogues and twins and exoplanet searches, extracted from Table 2 all those dwarf stars (a total of 61) which satisfy the following requirements: 1) Spectral types between G0 and G5, 2) $\log g > 4.20$, 3) [M/H] > -0.10, 4) single or members of wide doubles. In this table we have further distinguished stars by those which have spectral types, basic physical parameters and activity levels which are close (*) and very close (**) to those of the sun. Indeed, those marked ** in the table can be considered solar twin candidates. We have also indicated in this table those which have known exoplanets, and those which are currently on the Keck, Lick & AAT Doppler planet-search program, according to Valenti & Fischer (2005).

7.3. Metallicity distribution of the Solar Neighborhood

Information regarding the star formation and the chemical enrichment history of the galactic disk can be derived from the metallicity distribution of the solar neighborhood. We have used data in table 2 of this paper and table 1 of paper I to plot a histogram of [M/H] for our sample of stars. This histogram, based on 1364 stars, appears in Figure 6.

It is clear that this distribution is basically Gaussian with an enhanced low metallicity tail, probably due to thick-disk stars, some "metallicity-

Table 5
Solar Analogues

HIP	HD	Notes
699...	361...	*
1444...	1388...	D
1954...	2071...	*D
3578...	4392...	
6455...	8406...	*

Note.—Table 5 is presented in its entirety in the electronic edition of the Astronomical Journal. A portion is shown here for guidance regarding its form and content. Symbols in the notes column have the following meanings: *; A solar analogue with spectral type within 1 subclass of the sun. **; A candidate solar twin with spectral type, and physical parameters very similar to that of the sun. D; A star which is already in the Keck, Lick & AAT Doppler planet-search program (see Valenti & Fischer 2005). EP; A star with a known exoplanet.

effect" active K-stars (see §7.1) and even a few interloping halo stars (our sample, for instance, includes HD 19445, a well-studied halo star with [Fe/H]≈ -2). Taking a straight mean, we find $\langle[\mathrm{M/H}]\rangle = -0.15$ with a dispersion of 0.22 dex. This is in excellent agreement with the recent determination by the Geneva-Copenhagen survey (Nordström et al. 2004) (-0.14, $\sigma = 0.19$) and is also similar to one found for K-type giants by Girardi & Salaris (2001).

However, if one is interested in the metallicity distribution of the thin-disk population, thick disk and halo stars in the low metallicity tail must be removed by reference to kinematics. We will carry out this analysis in paper III where we will publish results for the remainder of our sample, but it is clear that the result will be close to the *mode* of the present distribution, i.e. [M/H]= -0.07, which is very similar to the result of Luck & Heiter (2005) who found $\langle[\mathrm{Fe/H}]\rangle = -0.04$ for a sample of 114 thin-disk stars within 15 parsecs of the sun.

8. Concluding Remarks

We have presented results for 1676 dwarf and giant stars within 40pc of the Sun including new, homogeneous spectral types, basic physical parameters, and measures of chromospheric activity. We will complete our study of the dwarf and giant stars earlier than M0 within 40pc in the third and final paper of this series. The goals of this project are to characterize the stellar population in the solar neighborhood and to provide data that will be useful in the selection of targets for the *Space Interferometry Mission* and the *Terrestrial Planet Finder* mission.

The data presented in this paper are currently available on the project's Web site, and work is continuing on the remaining stars in the project.

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REFERENCES

Allende Prieto, C., Barklem, P.S., Lambert, D.L. & Cunha, K. 2004, A&A, 420, 183

Alonso, A., Arribas, S. & Martinez-Roger, C. 1996, A&A, 313, 873

Alonso, A., Arribas, S. & Martinez-Roger, C. 1999, A&AS, 140, 261

Baliunas, S.L. et al. 1995, ApJ, 438, 269

Basri, G., Wilcots, E. & Stout, N. 1989, PASP, 101, 528

Blackwell, D.E. & Lynas–Gray, A.E. 1994, A&A, 282, 899

Bowyer, S., Sasseen, T.P., Wu, X. & Lampton, M. 1995, ApJS, 96, 461

Cayrel de Strobel, G. , Soubiran, C. & Ralite, N. 2001, A&A, 373, 159

Eggen, O.J. 1962, Roy. Obs. Bull., 51

ESA. 1997, The Hipparcos and Tycho Catalogues (ESA SP-1200) (Noordwijk: ESA)

Favata, F., Micela, G., Sciortino, S. & Morale, F. 1997, A&A, 324, 998

Garrison, R.F. 1994, in ASP conf. Ser. 60, The MK Process at 50 Years, ed. C.J. Corbally, R.O. Gray & R.F. Garrison (San Francisco: ASP), 3

Giampapa, M.S., Worden, S.P. & Gilliam, L.B. 1979, ApJ, 229, 1143

Girardi, L. & Salaris, M. 2001, MNRAS, 323, 109

Gonzalez, G. 1999, MNRAS, 308, 447

Gorda, S.Yu. & Svechnikov, M.A. 1998, Astron. Reports, 42, 793

Gray, R.O. 1989, AJ, 98, 1049

Gray, R.O. & Corbally, C.J. 1994, AJ, 107, 742

Gray, R.O., Corbally, C.J., Garrison, R.F., McFadden, M.T. & Robinson, P.E. 2003, AJ, 126, 2048 (Paper I).

Haberl, F., Filipović, M. D., Pietsch, W. & Kahabka, P. 2000, A&AS, 142, 41

Hamuy, M., Walker, A.R., Suntzeff, N.B., Gigoux, P., Heathcote, S.R. & Phillips, M.M. 1992, PASP, 104, 667

Henry, T.J., Walkowicz, L.M., Barto, T.C. & Golimowski, D.A. 2003, AJ, 123, 2002

Kazarovets, A.V., Samus, N.N., Durlevich, O.V.,Frolov, M.S., Antipin, S.V., Kireeva, N.N. & Pastukhova, E.N. 1997, IBVS #4659

Keenan, P.C.. 1984, in The MK Process and Stellar Classification, ed. R.F. Garrison (Toronto: David Dunlap Observatory)

Keenan, P.C. & McNeil, R.C. 1989, ApJS, 71, 245

Koen, C. & Eyer, L. 2002, MNRAS, 331, 45

Kurucz, R. L. 1993, CD–ROM 13, ATLAS9 Stellar Atmosphere Programs and 2 km/s Grid (Cambridge: Smithsonian Astrophys. Obs.)

Lejeune, T. & Schaerer, D. 2001, A&A, 366, 538

Luck, R.E. & Heiter, U. 2005, AJ, 129, 1063

Makarov, V.V & Kaplan, G.H. 2005, AJ, 129, 2420

Mermilliod, J.-C., Mermilliod, M. & Hauck, B. 1997, A&AS, 124, 349

Nordström, B., Mayor, M., Andersen, J., Holmberg, J., Pont, F., Jørgensen, B. R., Olsen, E. H., Udry, S. & Mowlavi, N. 2004, A&A, 418, 989

Noyes, R.W., Hartmann, L.W., Baliunas, S.L., Duncan, D.K. & Vaughan, A.H. 1984, ApJ, 279, 763

Press, W.H., Teukolsky, S.A., Vetterling, W.T. & Flannery, B.P. 1992, Numerical Recipes in C, 2nd Edition, (Cambridge: Cambridge University Press)

Rocha-Pinto, H.J. & Maciel, W.J. 1998, A&A, 339, 791

Shibata, R., Murakami, T., Ueda, Y., Yoshida, A., Tokanai, F., Otani, C., Kawai, N. & Hurley, K. 1997, ApJ, 486, 938

Sinachopoulos, D. 1989, A&AS, 81, 103

Soderblom, D.R. & Mayor, M. 1993, AJ, 105, 226

Thatcher, J.D. & Robinson, R.D. 1993, MNRAS, 262, 1

Tomkin, J., Lambert, D.L., Edvardsson, B., Gustafsson, B. & Nissen, P.E. 1989, A&A, 219, L15

Torres, C.A.O., Da Silva, L., Quast, G.R., De La Reza, R. & Jilinski, E. 2000, AJ, 120, 141

Valenti, J.A. & Fischer, D.A. 2005, ApJS, 159, 141

Vaughan, A.H. & Preston, G.W. 1980, PASP, 92, 385

Watson, L.C., Pritchard, J.D., Hearnshaw, P.M. & Gilmore, A.C. 2001, MNRAS, 325, 143

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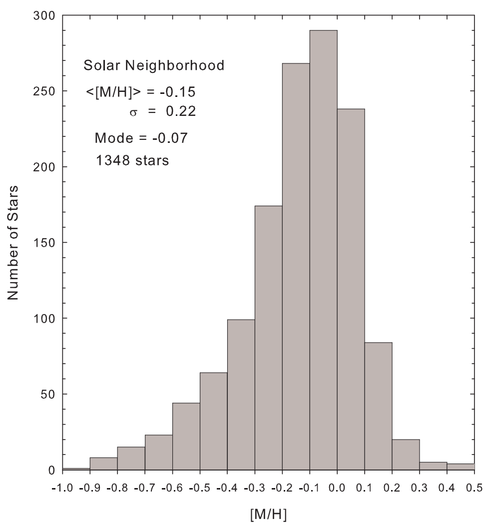

Fig. 6.— The histogram shows the metallicity distribution for stars in our sample in the solar neighborhood. Note the extended low-metallicity tail, composed mostly of stars from the thick disk.

Table 2
Spectral Types, Basic Physical Parameters and Chromospheric Indices

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
57	224789	K1 V	···	4999	4.48	1.0	-0.17	···	0.377	-4.568	A	···	CTIO
194	225003	F1 V	···	7043	4.07	2.0	-0.12	···	···	···	···	···	CTIO
296	225118	G8.5 V	···	5420	4.43	1.0	0.14	···	0.325	-4.570	A	···	SO
436	55	K4.5 V	···	···	···	···	···	···	0.338	-4.901	I	···	CTIO
522	142	F7 V	···	6257	3.99	2.7	-0.18	···	0.171	-4.853	I	···	CTIO
560	203	F3 Vn	···	6715	3.85	1.1	-0.19	*	···	···	···	···	SO
616	283	G9.5 V	···	···	···	···	···	···	0.162	-5.029	I	···	SO
669	361	G1 V	···	5837	4.47	1.0	-0.10	···	0.188	-4.834	I	···	SO
738	···	M0 V	···	···	···	···	···	···	···	···	···	···	SO
910	693	F8 V Fe−0.8 CH-0.5	···	6255	4.18	1.0	-0.31	···	0.180	-4.788	I	···	SO
934	750	K1 V	···	5079	4.58	1.0	-0.24	···	0.338	-4.657	A	···	CTIO
948	···	K5 V	···	···	···	···	···	···	0.205	-5.115	VI	···	CTIO
950	739	F5 V	···	6548	4.30	2.0	-0.05	···	0.192	-4.715	A	···	SO
1031	870	K0 V	···	5273	4.47	1.0	-0.16	···	0.214	-4.824	I	···	CTIO
1044	···	K6 V (k)	···	···	···	···	···	···	0.896	-4.840	I	···	CTIO
1083	···	M0.5 V	···	···	···	···	···	···	···	···	···	···	SO
1085	924	K2+ V (k)	···	4946	4.60	1.0	-0.12	···	0.580	-4.417	A	···	CTIO
1292	1237	G8.5 V (k)	···	5336	4.42	1.0	-0.04	···	0.354	-4.496	A	···	CTIO
1349	1273	G5 V Fe-1.2 CH-0.9	···	5693	4.53	1.0	-0.49	···	0.201	-4.802	I	···	CTIO
1382	1320	G2 V	···	5731	4.54	1.0	-0.23	···	0.205	-4.779	I	···	CTIO
1444	1388	G0 V	···	5927	4.36	1.0	-0.01	···	0.158	-4.985	I	···	SO
1546	···	M0.5 V	···	···	···	···	···	···	···	···	···	···	SO
1599	1581	F9.5 V	···	5991	4.41	1.0	-0.23	···	0.177	-4.855	I	···	CTIO
1608	···	M1+ V (k)	···	···	···	···	···	···	···	···	···	···	SO
1768	1815	K2 V (k)	···	4907	4.65	1.0	-0.37	···	0.350	-4.639	A	···	SO
1803	1835	G5 V CH-0.5	···	5756	4.40	1.0	0.13	···	0.299	-4.527	A	···	SO
1837	1910	K4 V (k)	···	···	···	···	···	···	0.883	-4.457	A	···	SO
1936	2025	K3 V	···	4761	4.62	1.0	-0.32	···	0.219	-4.933	I	···	SO
1954	2071	G2 V	···	5709	4.55	1.0	-0.10	···	0.173	-4.933	I	···	CTIO
1955	2070	G0 V	···	5930	4.26	1.0	-0.16	···	0.166	-4.931	I	···	CTIO
2021	2151	G0 V	···	5784	4.04	1.0	-0.23	···	0.155	-5.006	I	···	CTIO
2072	2262	A5 IVn	···	7922	3.97	2.0	-0.07	···	···	···	···	···	CTIO
2081	2261	K0.5 IIIb	···	4436	2.53	1.0	-0.73	K	···	···	···	···	CTIO
2235	2454	F5 V Sr	*	6516	4.20	2.1	-0.26	···	0.285	-4.427	A	···	CTIO
2237	2475	F9 V Fe+0.5	···	5897	4.24	1.0	0.02	···	0.245	-4.609	A	···	SO
2247	-17 63	K4 V (k)	···	···	···	···	···	···	0.484	···	···	···	SO
2663	3074A	F9− V	···	5851	4.14	1.0	-0.06	···	0.165	-4.951	I	···	SO
2663	3074B	K0 V	···	···	···	···	···	···	···	···	···	···	SO
2711	3158	F6 V	···	6428	4.20	2.0	-0.26	···	0.214	-4.635	A	···	CTIO
2743	3222	K2 V	···	4928	4.55	1.0	-0.51	···	0.154	-5.082	I	···	CTIO
2790	3277	G8 V	···	5490	4.44	1.0	-0.12	···	0.181	-4.919	I	···	CTIO
2802	3302	F5 V+	···	6503	4.03	2.1	-0.13	···	0.297	-4.407	A	···	CTIO
2941	3443	G7 V	···	5480	4.28	1.0	-0.14	···	0.170	-4.961	I	···	SO
3053	4152	G9 V	···	5376	4.25	1.0	-0.09	···	0.291	-4.608	A	···	CTIO
3170	3823	G0 V Fe-0.9 CH-0.4	···	6001	4.19	1.0	-0.35	···	0.173	-4.868	I	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
3185	3795	K0 V Fe-1.5 CH-1.3	···	5394	3.89	1.0	-0.46	···	0.134	-5.193	VI	···	SO
3236	3861	F8 V	···	6264	4.30	1.0	0.04	···	0.212	-4.680	A	···	CTIO
3249	-13 116	K7- V k	···	···	···	···	···	···	1.978	-4.512	A	···	SO
3261	···	K9 V	···	···	···	···	···	···	1.232	-4.882	I	···	SO
3337	4082	K1 V	···	5065	4.50	1.0	-0.16	···	0.172	···	···	···	CTIO
3340	4083	G9 IV-V	···	5331	4.66	1.0	-0.12	···	0.170	···	···	···	CTIO
3419	4128	G9 II-III	···	···	···	···	···	···	0.145	···	···	···	SO
3479	4208	G7 V Fe-1 CH-0.5	···	5683	4.53	1.0	-0.23	···	0.173	-4.924	I	···	SO
3497	4308	G6 V Fe-0.9	···	5746	4.47	1.0	-0.34	···	0.188	-4.853	I	···	CTIO
3505	4247	F3 V Fe−1	···	6903	4.13	2.0	-0.37	*	···	···	···	···	SO
3559	4307	G0 V	···	5784	4.11	1.0	-0.40	···	0.147	-5.061	I	···	SO
3578	4392	G4 V	···	5735	4.44	1.0	0.08	···	0.170	-4.951	I	···	CTIO
3583	4391	G5 V Fe-0.8	···	5772	4.50	1.0	-0.22	···	0.236	-4.669	A	···	CTIO
3588	4378AB	K6 V (k)	···	···	···	···	···	···	0.940	-4.739	A	···	CTIO
3765	4628	K2.5 V	···	4916	4.60	1.0	-0.34	···	0.182	-4.987	I	···	CTIO
3850	4747	G9 V	···	5354	4.55	1.0	-0.16	···	0.210	-4.829	I	···	SO
3879	4838	K4.5 V (k)	···	···	···	···	···	···	1.197	-4.470	A	···	CTIO
3961	5028	F6 V Fe-0.4	···	6472	4.31	2.0	-0.36	···	0.448	-4.165	VA	*	CTIO
4022	4967	K7- V k	···	···	···	···	···	···	1.357	-4.628	A	···	SO
4024	4972	K3.5 IV-V	···	···	···	···	···	···	0.388	-4.854	I	···	SO
4148	5133	K2.5 V (k)	···	4822	4.55	1.0	-0.21	···	0.313	-4.751	I	···	SO
4189	A	M1- V	···	···	···	···	···	···	···	···	···	···	CTIO
4189	B	M2+ V	···	···	···	···	···	···	···	···	···	···	CTIO
4353	5425	K4.5 V (k)	···	···	···	···	···	···	0.574	-4.791	I	···	SO
4473	5633	K6.5 V (k)	···	···	···	···	···	···	1.077	-4.744	A	···	CTIO
4569	···	M3 V	···	···	···	···	···	···	···	···	···	···	SO
4691	···	K4.5 V	···	···	···	···	···	···	0.473	-4.796	I	···	SO
4855	6156	G9 V	*	5144	4.42	1.0	-0.17	···	0.287	-4.657	A	···	SO
4855	6156B	K0 V + K5 V	···	···	···	···	···	···	0.343	···	···	···	SO
5027	6378	K5+ V (k)	···	···	···	···	···	···	0.835	-4.676	A	···	SO
5224	6673	K2.5 V	···	4838	4.62	1.0	-0.31	···	0.214	-4.935	I	···	CTIO
5260	···	K7 V (k)	···	···	···	···	···	···	1.938	-4.643	A	···	CTIO
5280	6735	F9 V	···	6042	4.39	1.0	-0.21	···	0.188	-4.799	I	···	CTIO
5346	6763	F2 V	···	6893	3.85	1.6	-0.18	···	···	···	···	···	CTIO
5364	6805	K1 III	···	···	···	···	···	···	0.154	···	···	···	SO
5373	6838	K0− V (k)	···	5149	4.57	1.0	-0.13	···	0.578	-4.333	A	···	SO
5496	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
5529	7199	K1 IV	···	5003	4.28	1.0	0.29	···	0.179	-4.982	I	···	CTIO
5663	7279	K6 V (k)	···	···	···	···	···	···	1.181	-4.656	A	···	SO
5806	7449	F9.5 V	···	6004	4.46	1.0	-0.26	···	0.190	-4.790	I	···	CTIO
5842	7693	K2+ V (k)	···	4799	4.29	1.0	0.06	···	0.530	-4.580	A	···	CTIO
5862	7570	F9 V Fe+0.4	···	6069	4.30	1.0	0.02	···	0.177	-4.861	I	···	CTIO
5896	7788	F5 V	···	6505	3.97	2.5	-0.07	···	0.341	-4.335	A	···	CTIO
5896	7788B	K1 V	···	···	···	···	···	···	0.468	···	···	···	CTIO
5938	7661	G9 V (k)	···	5350	4.45	1.0	-0.10	···	0.378	-4.459	A	···	SO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
6005	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
6037	7808	K4 V	···	···	···	···	···	···	0.214	-5.019	I	···	SO
6177	8049	K2 V (k)	···	4941	4.52	1.0	-0.19	···	0.769	-4.246	A	···	CTIO
6206	8076	G1 V	···	5834	4.42	1.0	-0.10	···	0.231	-4.672	A	···	CTIO
6273	8129	G7 V	···	5507	4.50	1.0	-0.21	···	0.178	-4.915	I	···	SO
6276	-12 243	G9 V (k)	···	···	···	···	···	···	0.513	···	···	···	SO
6351	···	M0 V (k)	···	···	···	···	···	···	0.884	-4.954	I	···	CTIO
6390	8326	K3- V	···	4805	4.50	1.0	0.04	···	0.302	-4.805	I	···	SO
6414	···	K6.5 V (k)	···	···	···	···	···	···	1.274	-4.655	A	···	CTIO
6455	8406	G3 V	···	5752	4.52	1.0	-0.03	···	0.195	-4.822	I	···	SO
6456	8389	K0 V CN+2	···	···	···	···	···	···	0.178	-5.013	I	···	SO
6567	···	M0.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
6626	···	K7 V (k)	···	···	···	···	···	···	1.826	-4.697	A	···	CTIO
6693	8821	G8 V Fe+0.6	···	5344	4.33	1.0	-0.13	···	0.224	-4.774	I	···	CTIO
6748	8829	F0.5 V	···	7089	3.91	2.0	-0.21	···	···	···	···	···	SO
6856	9054	K2+ V k	···	4720	4.61	1.0	-0.66	···	0.911	-4.263	A	···	CTIO
7018	9246	K2.5 V	···	5007	4.67	1.0	-0.58	···	0.219	-4.864	I	···	SO
7058	···	K5- V	···	···	···	···	···	···	0.485	-4.881	I	···	CTIO
7170	···	M1.5 V (k)	···	···	···	···	···	···	···	···	···	···	SO
7228	···	K5− V	···	···	···	···	···	···	0.556	-4.821	I	···	SO
7235	9540	G8.5 V	···	5428	4.52	1.0	-0.05	···	0.228	-4.774	I	···	SO
7254	9619	K0.5 V+	···	5188	4.26	1.0	0.01	···	0.241	-4.768	I	···	CTIO
7276	9562	G1 V	···	5830	4.00	1.0	0.10	···	0.139	-5.147	VI	···	CTIO
7357	9670	F9 V Fe-0.5	···	6160	4.31	1.0	-0.25	···	0.177	-4.831	I	···	CTIO
7372	9770	K2 V (k)	···	4733	4.24	1.0	-0.85	···	0.662	-4.354	A	···	SO
7396	9796	K0− V	···	···	···	···	···	···	0.190	-4.906	I	···	SO
7404	9782	F9 V	···	5995	4.39	1.0	-0.03	···	0.168	-4.913	I	···	SO
7443	9895	F5 V Fe-0.7	···	6588	4.25	2.0	-0.27	···	0.328	-4.317	A	···	CTIO
7539	10002	G9 V	···	5319	4.39	1.0	0.26	···	0.151	-5.091	I	···	SO
7580	10009	F8.5 V Fe-0.5	···	6162	4.14	1.0	-0.18	···	0.199	-4.729	A	···	CTIO/SO
7599	10180	G1 V	···	5793	4.31	1.0	-0.15	···	0.182	-4.866	I	···	CTIO
7601	10800	G0+ V	···	5782	4.13	1.0	-0.11	···	0.252	-4.611	A	···	CTIO
7687	10166	G9 V	···	5500	4.81	1.0	0.07	···	0.197	-4.883	I	···	SO
7751	10360	K2 V	···	···	···	···	···	···	0.211	-4.899	I	···	CTIO
7751	10361	K2 V	···	···	···	···	···	···	0.225	-4.839	I	···	CTIO
7776	···	M1 V k	···	···	···	···	···	···	···	···	···	···	SO
7822	10370	G5 V	···	5612	4.48	1.0	-0.03	···	0.170	-4.961	I	···	SO
7829	···	K6 V (k)	···	···	···	···	···	···	0.915	-4.685	A	···	CTIO
7916	10453	F6 V Fe-1 CH-0.5	···	6457	4.04	1.4	-0.34	···	0.271	-4.454	A	···	SO
7978	10647	F9 V	···	6126	4.38	1.0	-0.09	···	0.217	-4.675	A	···	CTIO
7981	10476	K1 V	···	5155	4.48	1.0	0.03	···	0.151	-5.092	I	···	CTIO
8008	···	M0.5+ V	···	···	···	···	···	···	···	···	···	···	CTIO
8039	10611	K0− V (k)	···	5151	4.49	1.0	0.06	···	0.459	-4.457	A	···	SO
8102	10700	G8.5 V	···	5358	4.57	1.0	-0.40	···	0.152	-5.065	I	···	CTIO/SO
8195	···	M0 V k	···	···	···	···	···	···	2.235	-4.595	A	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
8209	10830	F2 V	···	6740	3.83	2.0	-0.23	···	···	···	···	···	SO
8224	···	K5 V	···	···	···	···	···	···	0.595	-4.727	A	···	CTIO
8346	11020	G9 V	···	5250	4.68	1.0	-0.27	···	0.147	-5.105	VI	···	SO
8361	-13 321	K4 V (k)	···	···	···	···	···	···	0.505	-4.815	I	···	SO
8453	···	K7 V (k)	···	···	···	···	···	···	1.305	-4.677	A	···	CTIO
8514	11262	F9 V Fe-0.5	···	6175	4.35	1.0	-0.33	···	0.244	-4.571	A	···	CTIO
8701	12110	K2 V	···	4979	4.63	1.0	-0.38	···	0.241	-4.834	I	···	CTIO
8768	11507	K9 V k	···	···	···	···	···	···	2.232	-4.610	A	···	SO
8881	11683	K2.5 V (k)	···	···	···	···	···	···	0.435	-4.530	A	···	SO
8987	11938	K4 V (k)	···	···	···	···	···	···	0.935	-4.513	A	···	CTIO
9007	11937	G9 IV	···	···	···	···	···	···	0.170	-5.011	I	···	CTIO
9044	12058	K4.5 V (k)	···	···	···	···	···	···	1.089	-4.478	A	···	CTIO
9085	12042	F8.5 Fe-0.7	···	6273	4.25	2.0	-0.41	···	0.205	-4.681	A	···	CTIO
9094	11964	G9 V CN+1	···	5224	3.88	1.0	0.10	···	0.130	-5.209	VI	···	SO
9187	···	K6+ V (k)	···	···	···	···	···	···	1.579	-4.905	I	···	CTIO
9236	12311	F0 IV	···	7201	3.37	2.3	0.02	···	···	···	···	···	CTIO
9381	12387	G5 V Fe-0.8 CH-0.7	···	5729	4.34	1.0	-0.23	···	0.179	-4.896	I	···	CTIO
9398	···	K5.5 V	···	···	···	···	···	···	0.507	-4.861	I	···	CTIO
9553	12617	K3 V	···	···	···	···	···	···	0.488	-4.646	A	···	CTIO
9692	12754	F8.5 V	···	···	···	···	···	···	0.200	-4.751	I	···	SO
9711	···	A3 I	*	···	···	···	···	···	···	···	···	···	CTIO
9716	12786	G9.5 V (k)	···	5209	4.53	1.0	-0.03	···	0.391	-4.517	A	···	SO
9749	···	M1+ V	···	···	···	···	···	···	···	···	···	···	SO
9786	···	M2.5+ V	···	···	···	···	···	···	···	···	···	···	SO
10037	-17 400	K9 V (k)	···	···	···	···	···	···	1.122	-4.894	I	···	SO
10072	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
10138	13445	K1 V	···	5129	4.51	1.0	-0.27	···	0.241	-4.768	I	···	CTIO
10191	13513	K8 V k	*	···	···	···	···	···	1.644	-4.757	I	···	CTIO
	13513C	M1 V	*	···	···	···	···	···	···	···	···	···	CTIO
10301	13808	K2 V	···	5034	4.50	1.0	-0.11	···	0.170	-5.026	I	···	CTIO
10312	···	K9 V k	···	···	···	···	···	···	1.897	-4.736	A	···	SO
10370	···	M1 V k	···	···	···	···	···	···	···	···	···	···	SO
10395	···	M2 V k	···	···	···	···	···	···	···	···	···	···	SO
10421	13949	K6.5 V (k)	···	···	···	···	···	···	1.016	-4.738	A	···	CTIO
10542	14001	K3+ V (k)	···	···	···	···	···	···	0.571	-4.590	A	···	SO
10617	···	M3 V kee	···	···	···	···	···	···	···	···	···	···	SO
10712	···	M1.5 V	···	···	···	···	···	···	···	···	···	···	SO
10798	14412	G8 V	···	5423	4.63	1.0	-0.37	···	0.164	-4.997	I	···	SO
10812	···	M2.5+ V	···	···	···	···	···	···	···	···	···	···	SO
10842	14747	G7 V Fe-0.9	···	5556	4.48	1.0	-0.39	···	0.182	-4.889	I	···	CTIO
10864	14526	K2+ V (k)	···	4933	4.28	1.0	-0.13	···	0.488	-4.499	A	···	SO
10874	···	K6+ V	···	···	···	···	···	···	0.322	-5.014	I	···	CTIO
10925	14629	K3.5 V (k)	···	···	···	···	···	···	0.603	-4.566	A	···	CTIO
10938	···	K6.5 V (k)	···	···	···	···	···	···	1.022	···	···	···	CTIO
10977	14680	K2+ V	···	4883	4.54	1.0	-0.26	···	0.287	-4.771	I	···	SO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
11029	14691	F3 V(n)	···	6806	3.91	1.9	-0.18	···	···	···	···	···	CTIO/SO
11072	14802	G0 V	···	5854	4.06	1.0	-0.08	···	0.158	-4.985	I	···	SO
11231	15064	G1 V	···	5753	4.10	1.0	-0.01	···	0.170	-4.940	I	···	CTIO
11323	···	F6 IV	···	···	···	···	···	···	0.172	-4.801	I	···	SO
11324	15146	F5.5 V Fe-0.6 CH-0.4	···	6248	3.01	2.0	-0.39	*	0.233	-4.598	A	···	SO
11439	···	M2 V	···	···	···	···	···	···	···	···	···	···	SO
11565	15468	K4.5 V k	···	···	···	···	···	···	0.854	-4.552	A	···	SO
11739	-20 470	K6 V (k)	···	···	···	···	···	···	1.129	···	···	···	SO
11759	15767	K2.5 V (k)	···	···	···	···	···	···	0.452	-4.573	A	···	SO
11783	15798	F5− V	···	6502	4.02	2.0	-0.19	···	0.197	-4.684	A	···	SO
11852	16348	K3.5 V (k)	···	···	···	···	···	···	0.507	-4.658	A	···	CTIO
11877	16077	G9 V Fe+0.4	···	5146	4.35	1.0	-0.21	···	0.344	-4.566	A	···	CTIO
11964	16157	K8 V kee	···	···	···	···	···	···	8.288	-3.997	VA	*	CTIO
12109	16280	K3.5 V (k)	···	4582	4.70	1.0	-0.25	···	0.432	-4.761	I	···	SO
12110	16270	K3.5 V (k)	···	···	···	···	···	···	0.879	-4.459	A	···	SO
12114	16160	K3 V	···	4726	4.58	1.0	-0.14	···	0.153	-5.153	VI	···	CTIO
12119	16297	G9 V	···	5446	4.48	1.0	0.11	···	0.223	-4.788	I	···	SO
12144	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
12156	···	K7- V (k)	···	···	···	···	···	···	1.567	-4.629	A	···	CTIO
12186	16417	G1 V	···	5745	4.11	1.0	0.00	···	0.146	-5.093	I	···	SO
12261	···	M3 V	···	···	···	···	···	···	···	···	···	···	CTIO
12288	16538	F6 V Fe-0.7 CH-0.4	···	6253	3.47	2.0	-0.41	···	0.175	-4.807	I	···	SO
12390	16620	F5 V	···	6516	4.02	2.0	-0.25	···	0.219	-4.606	A	···	SO
12413	16754	A1 Vb	···	9132	4.11	2.0	-0.06	···	···	···	···	···	CTIO
12426	···	K8 V (k)	···	···	···	···	···	···	2.038	-4.621	A	···	CTIO
12444	16673	F8 V Fe-0.4	···	6253	4.14	2.2	-0.20	···	0.282	-4.473	A	···	CTIO
12653	17051	F9 V Fe+0.3	···	6080	4.35	1.0	0.00	···	0.234	-4.625	A	···	CTIO
12723	17155	K4 V	···	···	···	···	···	···	0.210	-5.066	I	···	CTIO
12837	17207	F7 V	···	6246	4.37	1.0	-0.10	···	0.260	-4.526	A	···	SO
12843	17206	F6 V	···	6378	4.06	2.0	-0.02	···	0.253	-4.524	A	···	SO
13008	17438	F5 V Fe-1.2 CH-0.8	···	6721	4.25	2.0	-0.34	···	0.428	-4.161	VA	*	SO
13363	17926	F6 V	···	6351	4.30	2.0	-0.16	···	0.175	-4.807	I	···	SO
13388	17970	K2 V	···	5036	4.49	1.0	-0.41	···	0.145	-5.122	VI	···	SO
13402	17925	K1.5 V (k)	···	5056	4.48	1.0	0.08	···	0.578	-4.357	A	···	CTIO/SO
13513	18168	K2+ V (k)	···	4820	4.41	1.0	-0.13	···	0.585	-4.438	A	···	SO
13594	18194	G9 V	···	5440	4.57	1.0	-0.24	···	0.184	-4.903	I	···	CTIO
13610	···	M2+ V	···	···	···	···	···	···	···	···	···	···	SO
13754	18599	K2 V (k)	···	···	···	···	···	···	0.537	-4.416	A	···	CTIO
13769	18445	K3− V (k)	···	4755	4.33	1.0	-0.09	···	0.337	-4.738	A	···	SO
13772	18455	K2 V	···	5030	4.33	1.0	-0.15	···	0.230	-4.834	I	···	SO
13790	···	K5+ V (k)	···	···	···	···	···	···	1.155	-4.601	A	···	SO
13841	···	K5 V (k)	···	···	···	···	···	···	0.560	-4.737	A	···	CTIO
	18622	A3 IV-V	*	···	···	···	···	···	···	···	···	···	CTIO
13886	···	K6+ V k	···	···	···	···	···	···	1.868	-4.599	A	···	CTIO
13902	18709	G0 V Fe-0.4	···	5877	4.37	1.0	-0.35	···	0.173	-4.886	I	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
13942	18692	F4 V	···	6754	4.05	2.0	0.02	···	···	···	···	···	SO
14086	18907	K2 V Fe-1.3 CH-0.8	···	5056	3.67	1.0	-0.72	···	0.128	-5.230	VI	···	SO
14146	18978	A3 IV-V	···	8045	3.93	2.0	-0.21	···	···	···	···	···	SO
14165	···	M2.5 V ke	···	···	···	···	···	···	···	···	···	···	SO
14223	···	K6.5 V	···	···	···	···	···	···	0.943	···	···	···	CTIO
14239	···	M0 V ke	···	···	···	···	···	···	···	···	···	···	SO
14501	19467	G1 V	···	5734	4.33	1.0	-0.10	···	0.164	-4.974	I	···	SO
14555	···	M0 V kee	···	···	···	···	···	···	···	···	···	···	SO
14559	···	F9− V	···	···	···	···	···	···	0.184	···	···	···	SO
14568	···	K9: V ke comp	···	···	···	···	···	···	4.826	-4.140	VA	*	SO
14574	···	K6.5 V (k)	···	···	···	···	···	···	1.244	···	···	···	CTIO
14587	19819	K5 V (k)	···	···	···	···	···	···	0.946	-4.655	A	···	CTIO
14589	···	K9 V (k)	···	···	···	···	···	···	1.401	···	···	···	SO
14623	19632	G5 V	···	5644	4.41	1.0	0.07	···	0.328	-4.484	A	···	SO
14665	···	M0 V	···	···	···	···	···	···	1.043	-4.996	I	···	CTIO
14813	···	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO
14879	20010	F6 V	···	6258	3.81	2.0	-0.19	···	0.162	-4.901	I	···	SO
14964	20201	F9.5 V	···	6014	4.40	1.0	0.02	···	0.158	-4.969	I	···	CTIO
15095	20280	K5.5 V (k)	···	···	···	···	···	···	1.216	-4.594	A	···	CTIO/SO
15131	20407	G5 V Fe-1.2 CH-1	···	5891	4.49	1.0	-0.54	···	0.207	-4.734	A	···	CTIO
15197	20320	kA4hA9mA9 V	···	7680	3.94	2.0	0.04	···	···	···	···	···	CTIO
15201	21024	F5 IV-V	···	6592	4.13	2.3	-0.08	···	0.244	-4.523	A	···	CTIO
15244	20395	F5 V Fe-0.7 CH-0.5	···	6675	4.22	2.0	-0.20	···	0.282	-4.408	A	···	CTIO/SO
15286	20492	K3.5 V	···	···	···	···	···	···	0.356	-4.877	I	···	SO
15312	···	M1.5+ V (k)	···	···	···	···	···	···	···	···	···	···	SO
15330	20766	G2 V	···	5752	4.54	1.0	-0.29	···	0.229	-4.693	A	···	CTIO
15360	···	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO/SO
15371	20807	G0 V	···	5848	4.50	1.0	-0.35	···	0.186	-4.827	I	···	CTIO
15411	20631	F2 V	···	6865	3.79	2.0	-0.24	···	···	···	···	···	SO
15439	···	M2+ V kee	···	···	···	···	···	···	···	···	···	···	CTIO
15510	20794	G8 V	···	5478	4.48	1.0	-0.36	···	0.163	-4.998	I	···	CTIO
15526	20781	G9.5 V	···	5204	4.51	1.0	-0.20	···	0.155	-5.069	I	···	SO
15527	20782	G1.5 V	···	5750	4.36	1.0	-0.11	···	0.167	-4.948	I	···	SO
15539	20916	K0 V	···	5321	4.50	1.0	-0.10	···	0.161	-5.029	I	···	CTIO
15689	···	F5 V	···	···	···	···	···	···	0.184	···	···	···	SO
15725	21021	K4 V	···	···	···	···	···	···	0.265	-4.982	I	···	CTIO
15771	···	K8 V (k)	···	···	···	···	···	···	1.845	-4.649	A	···	CTIO
15774	21209	K3.5 V	···	···	···	···	···	···	0.367	-4.848	I	···	CTIO
15799	21175	K1 V	···	5045	4.43	1.0	-0.09	···	0.249	-4.773	I	···	CTIO
15968	21722	F5 V	···	6671	4.12	2.2	-0.01	···	0.260	-4.460	A	···	CTIO
15973	···	M0.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
16012	21411	G8 V	···	5452	4.52	1.0	-0.20	···	0.192	-4.865	I	···	CTIO
16069	21749	K4.5 V	···	···	···	···	···	···	0.572	-4.744	A	···	CTIO
16085	21693	G9 IV-V	···	5342	4.43	1.0	-0.01	···	0.160	-5.028	I	···	CTIO
16094	···	K3- V	···	···	···	···	···	···	0.325	-4.769	I	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
16134	21531	K6 V k	...	...	...	...	...	...	1.864	-4.569	A	...	SO
16245	22001	F3 V	...	6629	3.86	1.6	-0.29	...	...	...	...	...	CTIO
16247	21703	K3 V k Fe+0.4	...	...	...	...	...	...	1.776	-4.071	VA	*	SO
16310	21899	F7 V	...	6308	3.99	2.7	-0.18	...	0.186	-4.759	I	...	CTIO
16365	21938	G0 V	...	5832	4.46	1.0	-0.54	...	0.175	-4.877	I	...	CTIO
16536	...	M2.5 V	...	...	...	...	...	...	...	...	...	...	CTIO
16537	22049	K2 V (k)	...	4999	4.53	1.0	-0.15	...	0.371	-4.598	A	...	CTIO
16711	22496	K6.5 V (k)	...	...	...	...	...	...	1.467	-4.626	A	...	CTIO
16846	22468	K2: Vn k	...	...	...	...	...	...	1.934	-3.841	VA	*	CTIO
17096	23079	F9.5 V	...	5987	4.37	1.0	-0.12	...	0.171	-4.890	I	...	CTIO
17157	...	K6 V (k)	...	...	...	...	...	...	1.803	-4.472	A	...	CTIO
17255	23295	K3.5 V (k)	...	...	...	...	...	...	0.437	-4.801	I	...	CTIO
17264	23472	K3.5 V	...	...	...	...	...	...	0.241	-4.962	I	...	CTIO
17265	23065	G9- V	...	...	...	...	...	...	0.150	-5.084	I	...	SO
17298	23308	F7 V	...	6251	3.99	2.0	-0.18	...	0.297	-4.440	A	...	CTIO
17346	...	K4.5 V	...	...	...	...	...	...	0.593	-4.729	A	...	SO
17364	23456	F9 V Fe-0.8 CH-0.5	...	6247	4.24	2.0	-0.29	...	0.199	-4.719	A	...	CTIO
17365	-13 718	K7− V (k)	...	...	...	...	...	...	1.372	...	...	...	SO
17378	23249	K1 III-IV	...	4866	3.54	1.0	-0.21	K	...	...	...	...	CTIO
17420	23356	K2.5 V	...	...	...	...	...	...	0.274	-4.807	I	...	SO
17439	23484	K2 V (k)	...	5067	4.45	1.0	0.01	...	0.412	-4.534	A	...	CTIO
17440	23817	K2 III	...	...	...	...	...	...	0.180	...	...	...	CTIO
17544	23588	K3+ V (k)	...	4607	4.50	1.0	-0.42	...	0.523	-4.600	A	...	SO
17651	23754	F5 IV-V	...	6631	4.06	2.0	0.00	...	0.192	-4.684	A	...	SO
17689	23856	F6+ V	...	6245	4.00	1.0	-0.21	...	0.178	-4.810	I	...	SO
17852	24045	G8 V	...	5419	4.56	1.0	-0.07	...	0.319	-4.555	A	...	SO
17956	...	K5- V (k)	...	...	...	...	...	...	0.736	-4.780	I	...	SO
17978	24331	K2.5 V	...	4844	4.62	1.0	-0.32	...	0.199	-4.959	I	...	CTIO
18115	...	M2 V (k)	...	...	...	...	...	...	...	...	...	...	SO
18180	...	M2.5 V	...	...	...	...	...	...	...	...	...	...	CTIO
18343	25120	K1 V (k)	...	5090	4.55	1.0	-0.14	...	0.377	-4.557	A	...	CTIO
18432	24892	K0 V Fe-1.2 CH-0.9	...	5323	3.91	1.0	-0.42	...	0.141	-5.143	VI	...	SO
18450	25004	K6 V (k)	*	...	...	...	...	...	1.436	-4.473	A	...	CTIO
18527	25015	K2 V (k) Fe-0.5	...	...	...	...	...	...	0.531	-4.446	A	...	SO
18538	25105	K0.5 V	...	5284	4.50	1.0	-0.08	...	0.207	-4.838	I	...	CTIO
18844	25874	G2 V	...	5747	4.39	1.0	-0.02	...	0.170	-4.947	I	...	CTIO
18907	25490	A0.5 Va	...	9017	3.87	2.0	-0.24	...	...	...	...	...	CTIO
18993	25621	F6 V	...	6249	3.67	2.9	-0.20	...	0.190	-4.754	I	...	CTIO
19233	26491	G1 V	...	5752	4.37	1.0	-0.30	...	0.179	-4.889	I	...	CTIO
19248	26354	K2 IV-V k	...	4851	4.41	1.0	-0.10	...	1.193	-4.127	VA	*	CTIO
19333	...	K5.5 V (k)	...	...	...	...	...	...	1.262	-4.529	A	...	CTIO
19510	...	K6 V (k)	...	...	...	...	...	...	1.125	-4.725	A	...	SO
19587	26574	F0 III	...	6963	3.39	2.4	-0.01	...	...	...	...	...	CTIO
19719	26690	F2 V	...	6820	3.92	2.0	-0.15	...	...	...	...	...	CTIO
19747	26967	K2 III	...	4501	2.53	1.0	-0.40	K	...	...	...	...	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	log g	ξ_t	$[M/H]$	N2	S_{MW}	log($R'_{\rm HK}$)	AC	N3	Obs
19849	26965	K0.5 V	···	5124	4.53	1.0	-0.28	···	0.151	-5.087	I	···	CTIO
19859	26923	G0 V CH-0.4	···	5999	4.45	1.0	-0.11	···	0.274	-4.521	A	···	CTIO
19884	27274	K4.5 V (k)	···	···	···	···	···	···	0.371	-4.905	I	···	CTIO
19893	27290	F1 V	···	7060	3.97	2.3	-0.13	···	···	···	···	···	CTIO
19921	27442	K2 III	···	4630	2.93	1.0	0.16	K	···	···	···	···	CTIO
19948	···	M1.5+ V	···	···	···	···	···	···	···	···	···	···	SO
20048	27426	K3 V (k)	···	4656	4.34	1.0	-0.19	···	0.788	-4.477	A	···	CTIO
20093	-10 887	K3.5 V (k)	···	···	···	···	···	···	0.534	···	···	···	SO
20232	-15 767	K5− V (k)	···	···	···	···	···	···	1.247	-4.518	A	···	SO
20240	-09 872	K4 V (k)	···	···	···	···	···	···	1.048	-4.462	A	···	SO
20302	···	K7 V k	···	···	···	···	···	···	2.246	-4.564	A	···	CTIO
20338	···	K9 V (k)	···	···	···	···	···	···	1.537	-3.916	VA	*	SO
20342	27701	K2.5 V	···	4794	4.40	1.0	-0.27	···	0.204	-4.971	I	···	SO
20552	28255A	G1 V	···	···	···	···	···	···	0.199	···	···	···	CTIO
20552	28255B	G6 V	···	···	···	···	···	···	0.209	···	···	···	CTIO
20630	28246	F5.5 V	···	6539	4.19	2.1	-0.10	···	0.265	-4.479	A	···	CTIO
20723	28185	G6.5 IV-V	···	5497	4.33	1.0	0.08	···	0.170	-4.975	I	···	SO
20737	28287	G9.5 V (k)	···	5028	4.55	1.0	-0.25	···	0.626	-4.295	A	···	SO
20781	28454	F5.5 V	···	6468	4.19	2.0	-0.24	···	0.205	-4.668	A	···	CTIO
20968	···	F9.5 V	*	···	···	···	···	···	0.147	-5.083	I	···	CTIO
21086	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
21172	28821	G3 V	···	5659	4.40	1.0	-0.19	···	0.166	-4.970	I	···	CTIO
21222	···	K7 V k	···	···	···	···	···	···	1.713	-4.651	A	···	SO
21223	29086	K3 V (k)	···	···	···	···	···	···	0.699	-4.440	A	···	CTIO
21248	29085	K0 III-IV	···	···	···	···	···	···	0.131	···	···	···	SO
21284	29220	K4 V (k)	···	···	···	···	···	···	0.892	-4.517	A	···	CTIO
21327	29231	G9 V	···	5353	4.42	1.0	0.04	···	0.217	-4.815	I	···	SO
21421	29139	K5 III	···	···	···	···	···	···	0.126	···	···	···	SO
21489	-15 820	K4.5 V	···	···	···	···	···	···	0.666	···	···	···	SO
21539	···	K5 V (k)	···	···	···	···	···	···	0.557	-4.558	A	···	CTIO
21594	29503	K1 III	···	···	···	···	···	···	0.141	···	···	···	SO
21731	30306	G9 V	···	5393	4.26	1.0	0.08	···	0.150	-5.083	I	···	CTIO
21733	···	M0.5 V ke	···	···	···	···	···	···	···	···	···	···	CTIO
21756	30003AB	G5 V	*	···	···	···	···	···	0.183	···	···	···	CTIO
21770	29875	F2 V	···	6991	4.01	2.0	-0.10	···	···	···	···	···	CTIO
21861	29992	F3 V	···	6666	3.63	2.0	-0.12	···	···	···	···	···	CTIO
21865	29985	K6 V	···	···	···	···	···	···	0.657	-4.797	I	···	CTIO
21934	···	K5- V (k)	···	···	···	···	···	···	0.676	-4.785	I	···	CTIO
21960	30278	G9 V	···	5369	4.45	1.0	-0.24	···	0.165	-5.001	I	···	CTIO
22059	···	K4 V (k)	···	···	···	···	···	···	0.474	-4.564	A	···	CTIO
22121	30440	K2.5 V (k)	···	···	···	···	···	···	0.630	-4.431	A	···	CTIO
22122	30501	K2 V	···	5042	4.48	1.0	-0.09	···	0.271	-4.762	I	···	CTIO
22175	30286	G5 V Fe-0.4	···	5595	4.54	1.0	-0.19	···	0.194	-4.837	I	···	CTIO
22221	30311	F9.5 V	···	6068	4.39	1.0	-0.03	···	0.279	-4.502	A	···	CTIO
22263	30495	G1.5 V CH-0.5	···	5758	4.46	1.0	-0.07	···	0.252	-4.624	A	···	CTIO/SO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
22281	30670	K3- V (k)	···	···	···	···	···	···	0.541	-4.529	A	···	CTIO
22288	30523	K5 V k	···	···	···	···	···	···	1.265	-4.413	A	···	SO
22431	31027AB	K1 V	···	···	···	···	···	···	0.211	-4.866	I	···	CTIO
22439	30743	F6 V Fe-0.9 CH-0.5	···	6471	4.04	2.0	-0.39	···	0.245	-4.533	A	···	SO
22531	31203	F1 V Fe-0.4	···	7129	3.96	2.5	-0.28	···	···	···	···	···	CTIO
22534	31204	F5 V	···	6510	4.17	2.4	-0.17	···	0.327	···	···	···	CTIO
22562	31261	K2 V (k)	···	5002	4.53	1.0	-0.13	···	0.319	-4.686	A	···	CTIO
22602	31143	K0- V	···	5330	4.46	1.0	-0.13	···	0.192	-4.890	I	···	CTIO
22646	33214	K2 IV-V	···	4999	4.47	1.0	0.06	···	0.249	-4.816	I	···	CTIO
22717	31975	F9 V Fe-0.5	···	6207	4.24	1.0	-0.09	···	0.170	-4.863	I	···	CTIO
22787	31392	G9 V	···	5265	4.46	1.0	-0.13	···	0.238	-4.762	I	···	SO
22844	31746	F5 V	···	6522	4.23	2.0	-0.27	···	0.331	-4.330	A	···	CTIO
22905	31527	G0 V	···	5836	4.42	1.0	-0.28	···	0.178	-4.871	I	···	SO
22907	31560	K3.5 V (k)	···	···	···	···	···	···	0.531	-4.683	A	···	SO
22919	31412	F9.5 V	···	6058	4.35	1.0	-0.08	···	0.181	-4.830	I	···	CTIO
23208	31985	K5 V k	···	···	···	···	···	···	1.423	-4.427	A	···	SO
23248	32223	K0.5 V	···	5212	4.58	1.0	-0.30	···	0.170	-4.995	I	···	CTIO
23309	···	K8 V kee	···	···	···	···	···	···	7.636	-3.893	VA	*	CTIO
23437	32778	G7 V Fe-1.4 CH-1.2	···	5749	4.55	1.0	-0.56	···	0.182	-4.870	I	···	CTIO
23482	32743	F5 V	···	6624	4.16	2.0	-0.05	···	0.246	-4.502	A	···	CTIO
23512	···	M3 V	···	···	···	···	···	···	···	···	···	···	SO
23516	···	K6 V	···	···	···	···	···	···	0.901	-4.790	I	···	SO
23555	32820	F8 V	···	6240	4.27	1.0	0.02	···	0.177	-4.831	I	···	CTIO
23693	33262	F9 V Fe-0.5	···	6246	4.28	2.0	-0.16	···	0.331	-4.373	A	···	CTIO
23708	···	K7 V k	···	···	···	···	···	···	2.188	-4 .575	A	···	CTIO
23776	34297	G8 V Fe-1.6 CH-1.2	···	5666	4.25	1.0	-0.47	···	0.179	-4.891	I	···	CTIO
23818	33095	G1 V	···	5745	4.06	1.0	-0.05	···	0.164	-4.974	I	···	SO
23831	33093	G0 IV	···	5768	3.40	1.0	-0.08	···	0.145	-5.085	I	···	SO
24162	33608	F5.5 IV-V	···	6500	4.01	2.1	0.00	···	0.271	-4.466	A	···	CTIO
24205	33636	G0 V CH-0.3	···	5955	4.46	1.0	-0.16	···	0.184	-4.830	I	···	CTIO
24210	33725	G9 V	···	···	···	···	···	···	0.175	-4.972	I	···	SO
24419	34101	G7 V	···	5498	4.38	1.0	-0.09	···	0.172	-4.956	I	···	SO
24523	···	K6+ V	···	···	···	···	···	···	0.792	-4.781	I	···	CTIO
24526	34540	G6 IV	···	5309	3.50	1.0	-0.13	···	0.217	-4.796	I	···	CTIO
24659	34642	K1 IV	···	···	···	···	···	···	0.126	···	···	···	SO
24754	34962	G8 V	···	5428	4.50	1.0	-0.09	···	0.297	-4.581	A	···	CTIO
24777	34688	K0 V	···	···	···	···	···	···	0.170	-5.006	I	···	SO
24783	34751	K6 V k	···	···	···	···	···	···	1.390	-4.633	A	···	SO
24786	34721	F9− V	···	6000	3.92	1.0	-0.06	···	0.156	-4.977	I	···	SO
24829	35072	F6 IV	···	6254	3.76	2.8	-0.18	···	0.158	-4.931	I	···	CTIO
24874	34865	K3.5 V (k)	···	4627	4.60	1.0	-0.39	···	0.707	-4.450	A	···	SO
24886	34970	K2.5 V	···	4800	4.60	1.0	-0.23	···	0.192	-5.020	I	···	CTIO
25002	35041	G2 V Fe-0.4 CH-0.5	···	5749	4.40	1.0	-0.07	···	0.304	-4.502	A	···	SO
25283	35650	K6 V ke	···	···	···	···	···	···	2.663	-4.270	A	···	CTIO
25321	35676	G7 V	···	5501	4.47	1.0	0.00	···	0.365	-4.461	A	···	SO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
25351	36767	F9 V Fe-0.7 CH+0	···	6104	4.42	1.0	-0.29	···	0.210	-4.694	A	···	CTIO
25396	35722	F7.5 V	···	6222	4.51	1.0	-0.08	···	0.177	-4.837	I	···	SO
25421	35854	K3- V	···	4842	4.55	1.0	-0.15	···	0.228	-4.922	I	···	SO
25486	35850	F8 V(n) (k)	···	6131	4.37	1.0	-0.02	···	0.574	-4.085	VA	*	SO
25544	36435	G9 V	···	5424	4.48	1.0	-0.01	···	0.357	-4.499	A	···	CTIO
25616	36108	F9 V	···	5882	4.08	1.0	-0.26	···	0.165	-4.932	I	···	SO
25623	36003	K5- V	···	···	···	···	···	···	0.265	-5.054	I	···	CTIO
25627	36223	K2+ V (k)	···	4848	4.52	1.0	-0.07	···	0.534	-4.495	A	···	CTIO
25647	36705	K2 V k	···	5041	4.49	1.0	-0.31	···	1.486	-3.880	VA	*	CTIO
25918	37763	K2 III	···	4491	2.76	1.0	0.01	K	···	···	···	···	CTIO
26013	···	K3+ V (k)	···	···	···	···	···	···	0.578	-4.600	A	···	SO
26175	37065	K3- V	···	···	···	···	···	···	0.235	-4.876	I	···	SO
26277	37656	K4 V (k)	···	···	···	···	···	···	0.734	-4.619	A	···	CTIO
26369	···	K5 V ke	···	···	···	···	···	···	4.580	-3.902	VA	*	CTIO
26373	37572	K1.5 V k	···	5017	4.54	1.0	-0.35	···	0.711	-4.234	A	···	CTIO
26380	38283	F9.5 V	···	6002	4.34	1.0	-0.25	···	0.158	-3.369	VA	*	CTIO
26394	39091	G0 V	···	5998	4.34	1.0	0.03	···	0.165	-4.941	I	···	CTIO
26462	···	G5 V	*	···	···	···	···	···	0.145	-5.112	VI	···	CTIO
26501	37706	G9 V	···	5358	4.40	1.0	-0.20	···	0.203	-4.852	I	···	CTIO
26542	···	K3.5 V (k)	···	···	···	···	···	···	0.377	-4.792	I	···	CTIO
26737	37962	G2 V	···	5748	4.50	1.0	-0.14	···	0.206	-4.777	I	···	SO
26834	37986	G8+ V CN+1	···	5518	4.20	1.0	0.26	···	0.158	-5.050	I	···	SO
26973	38459	K1 IV-V	···	5120	4.43	1.0	0.05	···	0.377	-4.568	A	···	CTIO
27058	38277	G1 V	···	5804	4.26	1.0	-0.10	···	0.165	-4.961	I	···	SO
	38392	K2.5 V (k)	*	···	···	···	···	···	0.388	-4.657	A	···	CTIO
27072	38393	F6.5 V	···	6372	4.31	2.0	-0.13	···	0.172	-4.817	I	···	SO
27075	38382	F8.5 V	···	6014	3.97	1.0	0.08	···	0.161	-4.954	I	···	SO
27080	39194	K0 V	···	5326	4.60	1.0	-0.41	···	0.146	-5.107	VI	···	CTIO
27244	38973	G0 V	···	5997	4.34	1.0	0.02	···	0.165	-4.935	I	···	CTIO
27288	38678	A2 IV-V(n)	···	8337	4.03	2.0	-0.76	*	···	···	···	···	SO
27321	39060	A6 V	···	8052	4.15	2.0	0.05	···	···	···	···	···	CTIO
27397	···	K9 V (k)	···	···	···	···	···	···	1.368	-4.764	I	···	SO
27628	39425	K1 III CN+1	···	4545	2.62	1.0	0.11	K	0.154	···	···	···	SO
27654	39364	K1 IV Fe-0.5	···	4717	2.71	1.0	-0.71	K	0.147	···	···	···	SO
27887	40307	K2.5 V	···	4775	4.66	1.0	-0.43	···	0.181	-5.037	I	···	CTIO
27890	40409	K2 III	···	4661	2.92	1.0	-0.08	K	···	···	···	···	CTIO
27896	40105	K1 IV-V	···	4979	3.79	1.0	-0.06	···	0.127	-5.229	VI	···	CTIO
27913	39587	G0 V CH-0.3	···	5951	4.46	1.0	0.00	···	0.325	-4.426	A	···	CTIO
27922	39855	G8 V Fe-0.7	···	5510	4.63	1.0	-0.42	···	0.175	-4.932	I	···	SO
27947	40292	F1 V	···	7165	3.79	2.9	-0.23	···	···	···	···	···	CTIO
28035	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
28103	40136	F2 V	···	7069	4.01	2.0	-0.01	*	···	···	···	···	SO
28319	···	M2 V	···	···	···	···	···	···	···	···	···	···	SO
28442	40887	K6.5 V	···	···	···	···	···	···	0.388	-4.932	I	···	CTIO
28754	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
28764	41700	F9 V Fe-0.4	···	6241	4.40	1.0	-0.05	···	0.351	-4.339	A	···	CTIO
28790	41742A	F5.5 V	···	6446	4.12	2.3	-0.19	···	0.336	···	···	···	CTIO
28790	41742B	K4.5 V (k)	···	···	···	···	···	···	0.928	···	···	···	CTIO
28796	41824	G7 Vp k CH-1	···	5440	4.12	1.0	-0.16	···	0.634	-4.153	VA	*	CTIO
28898	42286	K1 V	···	5029	4.61	1.0	-0.39	···	0.166	-5.025	I	···	CTIO
28921	41842	K2+ V (k)	···	4983	4.62	1.0	-0.04	···	0.456	-4.484	A	···	SO
28964	42505	K4 V (k)	···	···	···	···	···	···	0.788	-4.571	A	···	CTIO
29063	41853	K2 V	···	4943	4.56	1.0	-0.37	···	0.158	-5.071	I	···	CTIO
29096	···	K7.5 V	···	···	···	···	···	···	1.853	-4.662	A	···	SO
29271	43834	G7 V	···	5500	4.42	1.0	-0.07	···	0.175	-4.940	I	···	CTIO
29322	···	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO
29374	42931	K2.5 V (k)	···	4851	4.57	1.0	-0.22	···	0.312	-4.752	I	···	CTIO
29568	43162	G6.5 V	···	5571	4.49	1.0	-0.03	···	0.343	-4.480	A	···	SO
29673	44447	G0 V Fe-0.8 CH-0.3	···	5996	4.28	1.0	-0.29	···	0.170	-4.888	I	···	CTIO
29788	44120	F9.5 V	···	5996	4.15	1.0	0.00	···	0.149	-5.044	I	···	CTIO
29804	43848	K2 IV	*	···	···	···	···	···	0.165	-5.081	I	···	CTIO
29843	43745	F8.5 V	···	5998	3.52	1.0	-0.02	···	0.151	-5.021	I	···	SO
29860	43587	G0 V	···	5861	4.29	1.0	-0.09	···	0.183	-4.847	I	···	CTIO
29964	45081	K3.5 V ke	···	···	···	···	···	···	2.952	-3.755	VA	*	CTIO
30045	44310	K1 IV-V	···	5219	4.42	1.0	0.13	···	0.149	-5.105	VI	···	CTIO
30104	44594	G1.5 V	···	5777	4.39	1.0	0.02	···	0.157	-5.019	I	···	CTIO
30225	44573	K2.5 V (k)	···	···	···	···	···	···	0.391	-4.617	A	···	SO
30256	···	M1 V k	···	···	···	···	···	···	···	···	···	···	SO
30314	45270	G0 Vp CH-0.3	···	5897	4.44	1.0	-0.07	*	0.361	-4.378	A	···	CTIO
30362	256294	B9 III	*	···	···	···	···	···	···	···	···	···	SO
30476	45289	G2 V	*	5747	4.31	1.0	0.06	···	0.154	-5.041	I	···	CTIO
30480	45701	G1 V	···	5750	4.17	1.0	0.00	···	0.158	-5.010	I	···	CTIO
30503	45184	G1.5 V	···	5841	4.39	1.0	0.01	···	0.172	-4.921	I	···	SO
30545	45067	F9 V	···	6009	4.09	1.0	-0.20	···	0.163	-4.927	I	···	CTIO
30579	45364	G8 V	···	5451	4.53	1.0	-0.05	···	0.153	-5.061	I	···	CTIO
30711	45588	F8 IV	···	6079	3.92	1.0	-0.09	···	0.164	-4.917	I	···	SO
30888	···	K7- V (k)	···	···	···	···	···	···	1.170	-4.771	I	···	CTIO
30979	45977	K4+ V (k)	···	···	···	···	···	···	0.707	-4.635	A	···	SO
31079	46569	F8 V Fe-0.4	···	6251	3.69	2.6	-0.13	···	0.146	-5.027	I	···	CTIO
31126	A	M0 V (k)	···	···	···	···	···	···	···	···	···	···	CTIO
31126	B	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
31134	47252	K0.5 V	···	5279	4.59	1.0	-0.23	···	0.160	-5.034	I	···	CTIO
31292	···	M3.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
31293	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
31540	47186	G6 V	···	5499	4.34	1.0	0.02	···	0.172	-4.953	I	···	SO
31547	47283	G1 V	···	5770	4.28	1.0	-0.19	···	0.214	-4.727	A	···	SO
31555	···	K8 V k	···	···	···	···	···	···	1.918	-4.731	A	···	CTIO
31592	47205	K1 III	···	4799	3.05	1.0	0.18	K	0.132	···	···	···	SO
31623	47391	G7 V	···	5497	4.38	1.0	-0.48	···	0.182	-4.899	I	···	SO
31634	···	K8 V (k)	···	···	···	···	···	···	2.080	-4.696	A	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
31655	47157	G5 IV-V	···	5747	4.30	1.0	0.28	···	0.161	-5.012	I	···	CTIO
31692	48611	G9.5 V	···	5336	4.51	1.0	-0.25	···	0.168	-4.981	I	···	CTIO
31711	48189	G1 V CH-0.5	···	5821	4.35	1.0	-0.11	*	0.444	-4.268	A	···	CTIO
31862	···	M0 V (k)	···	···	···	···	···	···	···	···	···	···	CTIO
32043	···	K4+ V (k)	···	···	···	···	···	···	0.897	-4.313	A	···	CTIO/SO
32076	48286	F9 V Fe-0.5 CH-0.4	···	5998	4.47	1.0	-0.45	···	0.193	-4.770	I	···	SO
32322	48938	G0 V Fe−0.8 CH−0.5	···	6159	4.33	1.0	-0.18	···	0.180	-4.825	I	···	SO
32366	49095	F6.5 V	···	6322	4.36	2.0	-0.20	···	0.190	-4.745	A	···	SO
32500	58805	F5.5 V Fe-1.0 CH-0.6	···	6556	4.23	1.9	-0.36	···	0.328	-4.330	A	···	CTIO
32544	···	K6.5 V (k)	···	···	···	···	···	···	1.000	-4.792	I	···	CTIO
32607	50241	A8 Vn kA6	···	7536	3.42	1.8	-0.11	···	···	···	···	···	CTIO
32765	50223	F5.5 V	···	6482	4.01	2.0	-0.17	···	0.205	-4.661	A	···	CTIO
32775	50571	F5 V Fe+0.4	···	6534	4.18	2.1	-0.05	···	0.239	-4.551	A	···	CTIO
32971	50255	G4.5 V	···	5575	4.38	1.0	-0.04	···	0.268	-4.636	A	···	SO
33037	50590	K3 V	···	···	···	···	···	···	0.204	-5.011	I	···	SO
33094	50806	G5 V	···	5604	4.11	1.0	0.06	···	0.146	-5.103	VI	···	SO
33109	50639	F8.5 V	···	6080	4.09	1.0	-0.08	···	0.177	-4.854	···	···	CTIO/SO
33229	51608	K0 IV-V	···	5375	4.41	1.0	0.01	···	0.141	-5.144	VI	···	CTIO
33302	51199	F1.5 V	···	6790	3.65	2.0	-0.18	···	···	···	···	···	SO
33324	51929	G2 V Fe-1.4 CH-0.7	···	5915	4.35	1.0	-0.65	···	0.179	-4.852	I	···	CTIO
33478	51733	F2 V	···	6813	3.75	2.0	-0.25	···	···	···	···	···	SO
33495	52298	F8 V Fe-1 CH-0.5	···	6323	4.28	2.0	-0.38	···	0.214	-4.641	A	···	CTIO
33560	51849	K5- V k	···	···	···	···	···	···	1.280	-4.441	A	···	SO
33690	53143	K0 IV-V (k)	···	5326	4.40	1.0	0.13	···	0.344	-4.547	A	···	CTIO
33691	52491	G9 V	···	5434	4.46	1.0	-0.06	···	0.217	-4.790	I	···	CTIO
33705	52516	F5.5 V Fe-0.7 CH-0.4	···	6503	4.33	2.0	-0.21	···	0.214	-4.614	A	···	SO
33736	52756	K2 IV	···	5002	4.43	1.0	0.15	···	0.171	-5.037	I	···	CTIO
33817	52698	K1 V (k)	···	···	···	···	···	···	0.316	-4.680	A	···	SO
34052	53680	K6 V	···	···	···	···	···	···	0.455	-4.925	I	···	CTIO
34065	53705	G0 V	···	5775	4.28	1.0	-0.38	···	0.163	-4.981	I	···	CTIO
34069	53706	K0.5 V	···	5272	4.55	1.0	-0.25	···	0.157	-5.049	I	···	CTIO
34423	54359	K3- V	···	···	···	···	···	···	0.293	-4.795	I	···	SO
34739	55720	G8 V	···	5496	4.49	1.0	-0.36	···	0.175	-4.932	I	···	CTIO
34834	55892	F3 V Fe-1.0	···	6907	3.78	2.0	-0.41	···	···	···	···	···	CTIO
34879	55693	G1.5 V	···	5753	4.28	1.0	0.06	···	0.168	-4.951	I	···	SO
34890	56533	K6 V (k)	···	···	···	···	···	···	1.097	-4.656	A	···	CTIO
35091	58160	K2 V	···	···	···	···	···	···	0.239	-4.888	I	···	CTIO
35096	56662	G0 V	···	5887	4.45	1.0	-0.26	···	0.179	-4.864	I	···	CTIO
35139	56274	G7 V Fe-1.5 CH-1.3	···	5799	4.57	1.0	-0.61	···	0.202	-4.768	I	···	SO
35246	···	K5.5 V (k)	···	···	···	···	···	···	1.062	-4.313	A	···	CTIO
35296	57095	K2.5 V (k)	···	···	···	···	···	···	0.530	-4.538	A	···	CTIO
35564	57852	F5 V	···	6603	4.05	1.9	-0.15	···	0.354	-4.313	A	···	CTIO
35564	57853	F9 V	···	···	···	···	···	···	0.333	···	···	···	CTIO
35651	57568	K4- V (k)	···	···	···	···	···	···	0.415	-4.749	A	···	SO
35739	58111	K2 V	···	4999	4.46	1.0	-0.11	···	0.175	-5.012	I	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
35851	···	K5 V	···	···	···	···	···	···	0.843	-4.738	A	···	SO
35884	58192	F6- V	···	6287	3.95	2.0	-0.41	···	0.263	-4.503	A	···	SO
35902	58489	K3.5 V	···	4578	4.56	1.0	-0.11	···	0.197	-5.135	VI	···	CTIO
35998	58461	F5 V Fe-0.8 CH-0.5	···	6609	3.98	2.0	-0.30	···	0.290	-4.404	A	···	SO
36102	···	M1- V	···	···	···	···	···	···	···	···	···	···	CTIO/SO
36121	58760	K4+ V	···	···	···	···	···	···	0.593	-4.777	I	···	SO
36160	59100	G1.5 V	···	5761	4.60	1.0	-0.27	···	0.162	-4.977	I	···	CTIO/SO
36165	59099	F6 V	···	6367	3.97	1.5	-0.16	···	0.200	-4.701	A	···	CTIO/SO
36210	59468	G6.5 V	···	5517	4.42	1.0	-0.17	···	0.171	-4.946	I	···	CTIO
36338	···	M3- V	···	···	···	···	···	···	···	···	···	···	SO
36352	···	K6.5 V (k)	···	···	···	···	···	···	1.540	-4.620	A	···	CTIO
36395	59438	F8 V Fe-1.3 CH-0.8	···	6262	3.76	2.0	-0.62	···	0.240	-4.559	A	···	SO
36399	59380	F6 V	···	6365	4.13	2.0	-0.27	···	0.214	-4.647	A	···	CTIO
36512	59711	G2 V	···	5747	4.46	1.0	-0.05	···	0.173	-4.916	I	···	SO
36515	59967	G2 V	···	5768	4.49	1.0	-0.14	···	0.378	-4.372	A	···	SO
36640	59984	G0 V Fe-1.6 CH-0.5	···	5998	4.08	1.0	-0.70	···	0.218	-4.663	A	···	CTIO
36795	60532	F6 IV-V	···	6262	3.83	2.0	-0.05	···	0.168	-4.864	I	···	SO
36817	60584	F5 V	···	···	···	···	···	···	0.268	-4.478	A	···	SO
36817	60585	F5- V	···	···	···	···	···	···	0.250	···	···	···	SO
36832	61033	G8 V (k)	···	5471	4.42	1.0	-0.11	···	0.409	-4.391	A	···	CTIO
36927	61214	K3.5 V (k)	···	···	···	···	···	···	0.842	-4.447	A	···	CTIO
36948	61005	G8 V k comp?	···	5408	4.40	1.0	-0.06	···	0.459	-4.337	A	···	CTIO
37284	63454	K3 V (k)	···	···	···	···	···	···	0.622	-4.522	A	···	CTIO
37563	62850	G1 V CH-0.5	···	5860	4.38	1.0	0.08	···	0.347	-4.422	A	···	CTIO
37606	62644	G8 IV-V	*	5343	3.74	1.0	-0.08	···	0.132	-5.207	VI	···	CTIO
37635	62848	F9 V	···	6106	4.37	1.0	-0.01	···	0.285	-4.483	A	···	CTIO
37718	63008	F9 V Fe-0.5	···	6220	4.39	1.0	-0.17	···	0.291	-4.458	A	···	CTIO
37727	63008B	G5 V	···	···	···	···	···	···	0.277	-4.602	A	···	CTIO
37853	63077	F9 V	···	6002	4.87	1.0	-0.57	···	0.186	-4.823	I	···	SO
37918	63581	K0 IV-V (k)	···	5252	4.37	1.0	0.07	···	0.423	-4.427	A	···	CTIO
37923	63608	K0 IV-V (k)	···	5250	4.56	1.0	-0.01	···	0.409	-4.455	A	···	CTIO
38041	63765	G9 V	···	5434	4.48	1.0	-0.10	···	0.182	-4.915	I	···	CTIO
38048	63336	F5.5 V	···	6404	4.00	2.0	-0.13	···	0.204	-4.680	A	···	SO
38160	64185	F4 V	···	6702	4.07	2.1	-0.13	···	···	···	···	···	CTIO
38179	64184	G3 V	···	5627	4.43	1.0	-0.28	···	0.207	-4.787	I	···	CTIO
38324	···	K6 V	···	···	···	···	···	···	0.622	-4.805	I	···	CTIO
38382	64096	G0 V	···	5826	4.24	1.0	-0.21	···	0.175	-4.883	I	···	SO
38392	64114	G7 V	···	5506	4.47	1.0	-0.05	···	0.197	-4.845	I	···	SO
38423	64379	F5 V Fe-0.5	···	6554	4.05	2.0	-0.14	···	0.322	-4.363	A	···	SO
38558	65216	G5 V	···	5620	4.52	1.0	-0.15	···	0.175	-4.920	I	···	CTIO
38596	···	K4- V (k)	···	···	···	···	···	···	0.803	-4.483	A	···	CTIO
38702	···	M0 V	···	···	···	···	···	···	1.195	-5.122	VI	···	SO
38712	64685	F3 V	···	6789	3.94	1.8	-0.16	···	···	···	···	···	CTIO
38908	65907	F9.5 V	···	6000	4.45	1.0	-0.31	···	0.179	-4.846	I	···	CTIO
38910	···	K4.5 V (k)	···	···	···	···	···	···	0.722	-4.658	A	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
38939	65486	K4- V (k)	···	···	···	···	···	···	0.648	-4.548	A	···	SO
38980	65721	G9 V	···	5379	4.51	1.0	-0.34	···	0.194	-4.867	I	···	CTIO
38998	65562	K2+ V	···	···	···	···	···	···	0.162	-5.055	I	···	SO
39330	66653	G2 V	···	5748	4.41	1.0	0.00	···	0.192	-4.835	I	···	CTIO
39342	67199	K2 V (k)	···	···	···	···	···	···	0.230	-4.843	I	···	CTIO
39506	66573	G5 V Fe-1.3 CH-1	···	5761	4.43	1.0	-0.58	···	0.192	-4.821	I	···	CTIO
39611	···	K6 V (k)	···	···	···	···	···	···	0.746	-4.920	I	···	CTIO
39710	67458	G0 V	···	5939	4.47	1.0	-0.19	···	0.167	-4.929	I	···	SO
39903	68456	F6 V Fe-0.8 CH-0.4	···	6467	3.97	2.0	-0.36	···	0.357	-4.286	A	···	CTIO
40035	68146	F6.5 V	···	6370	4.19	2.0	-0.10	···	0.177	-4.805	I	···	SO
40051	68475	K2 V	···	4959	4.52	1.0	-0.10	···	0.219	-4.888	I	···	CTIO
40283	68978	G0.5 V	···	5921	4.40	1.0	-0.04	···	0.167	-4.942	I	···	SO
40359	···	K6+ V (k)	···	···	···	···	···	···	1.049	···	···	···	CTIO
40438	69655	G0- V	···	5957	4.38	1.0	-0.27	···	0.177	-4.861	I	···	CTIO
40693	69830	G8+ V	···	5447	4.50	1.0	0.06	···	0.167	-4.991	I	···	SO
40702	71243	F5 V Fe-0.8	···	6625	3.96	2.0	-0.26	···	0.297	-4.376	A	···	CTIO
40706	70060	A8 V	···	7790	4.11	2.0	0.11	*	···	···	···	···	SO
40724	-14 2469	K5- V (k)	···	···	···	···	···	···	0.361	···	···	···	SO
40769		K8 V	*	···	···	···	···	···	1.413	···	···	···	CTIO
	B	M1.5 V	*	···	···	···	···	···	···	···	···	···	CTIO
40952	70642	G6 V CN+0.5	···	5559	4.37	1.0	-0.03	···	0.184	-4.886	I	···	SO
41134	70889	F9.5 V	···	6004	4.44	1.0	-0.03	···	0.188	-4.821	I	···	SO
41211	70958	F8 V Fe-1.3 CH-0.7	···	6294	4.16	1.0	-0.38	···	0.398	-4.246	A	···	CTIO
41261	71386	G9 V (k)	···	5268	4.26	1.0	-0.11	···	0.409	-4.445	A	···	CTIO
41282	71196	F5 V Fe−0.7 CH−0.5	···	6703	4.14	2.0	-0.20	···	0.350	-4.274	A	···	SO
41312	71878	K2 III	···	···	···	···	···	···	0.172	···	···	···	CTIO
41317	71334	G2.5 V	···	5743	4.45	1.0	-0.06	···	0.164	-4.971	I	···	SO
41503	···	K8 V k	···	···	···	···	···	···	1.544	-4.770	I	···	SO
41529	71835	G9 V+	···	5415	4.42	1.0	0.03	···	0.171	-4.976	I	···	CTIO
41609	71811	K2 V	···	···	···	···	···	···	0.167	-5.074	I	···	SO
41795	···	K6.5 V (k)	···	···	···	···	···	···	1.479	-4.607	A	···	CTIO
41802	···	M2 V	···	···	···	···	···	···	···	···	···	···	SO
41847	···	K6 V (k)	···	···	···	···	···	···	0.784	-4.736	A	···	CTIO
41871	73744	G5 V Fe-1.3 CH-0.9	···	5834	4.47	1.0	-0.44	···	0.186	-4.834	I	···	CTIO
41926	72673	G9 V	···	5272	4.61	1.0	-0.30	···	0.170	-4.986	I	···	SO
42011	72769	G8 IV-V	···	5549	4.28	1.0	0.18	···	0.159	-5.027	I	···	SO
42108	72928	K6 V (k)	···	···	···	···	···	···	0.439	-5.038	I	···	SO
42123	73121	F9.5 V	···	6001	4.16	1.0	-0.06	···	0.157	-4.978	I	···	CTIO
42196	···	K7- V k	···	···	···	···	···	···	2.131	-4.587	A	···	CTIO
42214	73256	G8 IV-V Fe+0.5	···	5312	4.43	1.0	0.11	···	0.271	-4.675	A	···	CTIO
42281	73322	K0.5 V (k)	···	5022	4.45	1.0	-0.06	···	0.452	-4.535	A	···	SO
42291	73524	G0 Vp	*	5987	4.33	1.0	0.04	···	0.166	-4.931	I	···	CTIO
42401	73583	K4+ V (k)	···	···	···	···	···	···	0.901	-4.512	A	···	SO
42430	73752	G5 IV	···	5499	3.97	1.0	0.08	···	0.158	-5.031	I	···	SO
42650	···	K7- V ke	···	···	···	···	···	···	4.904	-4.224	A	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
42697	74385	K2+ V	···	4901	4.58	1.0	-0.19	···	0.217	-4.902	I	···	CTIO
42808	74576	K2.5 V (k)	···	4925	4.57	1.0	0.02	···	0.615	-4.402	A	···	SO
42910	-20 2665	K5− V k	···	···	···	···	···	···	1.170	-4.595	A	···	SO
42913	74956	A1 Va(n)	···	9021	3.79	2.0	-0.33	···	···	···	···	···	CTIO
42914	74885	G9 V	···	5322	4.55	1.0	-0.19	···	0.260	-4.685	A	···	CTIO
42916	74842	G8 V	···	5423	4.35	1.0	-0.09	···	0.241	-4.718	A	···	CTIO
42922	74868	F9+ V	···	6134	4.20	1.0	0.08	···	0.166	-4.913	I	···	CTIO
43177	75289	F9 V Fe+0.3	···	6132	4.29	1.0	0.16	···	0.153	-5.008	I	···	CTIO
43290	75519	G2 V	···	5746	4.51	1.0	-0.02	*	0.381	-4.376	A	···	CTIO
43310	···	K4.5 V (k)	···	···	···	···	···	···	0.398	-4.842	I	···	CTIO
43363	-09 2670	K3+ V (k)	···	···	···	···	···	···	0.637	-4.602	A	···	SO
43726	76151	G3 V	···	5748	4.43	1.0	0.08	···	0.188	-4.853	I	···	CTIO
43771	76378	K2 V CN+1	···	···	···	···	···	···	0.204	-5.056	I	···	SO
43797	76653	F6 V	···	6500	4.08	2.2	-0.05	···	0.285	-4.444	A	···	CTIO
43880	76668	G0 V	···	5914	4.18	1.0	0.01	···	0.168	-4.934	I	···	CTIO
43947	76740	F6− V	···	6400	4.11	2.0	-0.23	···	0.353	-4.320	A	···	SO
43969	···	K9 V (k)	···	···	···	···	···	···	1.581	-4.802	I	···	SO
44075	76932	G2 V Fe−1.8 CH−1	···	6003	4.25	1.0	-0.77	···	0.186	-4.781	I	···	SO
44143	77370	F4 V	···	6690	4.13	2.3	-0.09	···	···	···	···	···	CTIO
44162	77084	F5 V	···	6543	4.09	2.0	-0.01	···	0.223	-4.597	A	···	SO
44382	78045	kA3hA5mA5 V	···	8198	4.09	2.0	0.19	···	···	···	···	···	CTIO
44526	77825	K3 V (k)	···	···	···	···	···	···	0.681	-4.409	A	···	SO
44713	78429	G2 V	···	5749	4.31	1.0	-0.01	*	0.175	-4.916	I	···	CTIO
44719	78351	G9 V (k)	···	5275	4.46	1.0	-0.08	···	0.277	-4.655	A	···	CTIO
44785	···	K5 V	···	···	···	···	···	···	0.942	-4.624	A	···	SO
44811	78747	G5 V Fe-1.6 CH-1	···	5833	4.42	1.0	-0.74	···	0.183	-4.825	I	···	CTIO
44821	78746	K2.5 V	···	4800	4.60	1.0	-0.15	···	0.252	-4.905	I	···	CTIO
44860	78558	G0.5 V	···	5750	4.33	1.0	-0.43	···	0.156	-5.007	I	···	SO
44899	···	K7 V (k)	···	···	···	···	···	···	1.200	-4.729	A	···	CTIO/SO
44965	···	K6.5 V (k)	···	···	···	···	···	···	1.548	···	···	···	CTIO
45238	80007	A1 III-	···	8866	3.16	2.0	-0.36	*	···	···	···	···	CTIO
45251	···	K6 V (k)	···	···	···	···	···	···	1.089	-4.643	A	···	CTIO
45301	···	K3.5 V	···	···	···	···	···	···	0.338	-4.843	I	···	CTIO
45571	80671	F5 V Fe-0.7 CH-0.5	···	6618	4.05	1.8	-0.31	···	0.325	-4.323	A	···	CTIO
45637	80545	K6.5 V (k)	···	···	···	···	···	···	0.587	-4.830	I	···	CTIO
45749	80883	K0.5 V	···	5173	4.51	1.0	-0.24	···	0.277	-4.696	A	···	CTIO
45801	···	K5+ V (k)	···	···	···	···	···	···	0.815	-4.703	A	···	CTIO
45876	···	K2.5 V (k)	···	···	···	···	···	···	0.331	-4.747	A	···	CTIO
45940	81639	G7 V	*	5532	4.50	1.0	-0.18	···	0.151	-5.070	I	···	CTIO
45940	81639B	G8 V	*	···	···	···	···	···	0.250	···	···	···	
45957	81044	K0 V (k)	···	5145	4.62	1.0	-0.42	···	0.246	-4.747	A	···	CTIO
45957	81044B	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
45995	81133	F8.5 V	···	6100	4.44	1.0	-0.10	···	0.195	-4.762	I	···	SO
46324	81659	G6 V	···	5554	4.40	1.0	0.06	···	0.240	-4.695	A	···	SO
46404	81809	G5 V Fe-1 CH-0.8	···	5653	3.85	1.0	-0.32	···	0.160	-4.993	I	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
46422	82282	K0.5 V (k)	···	5089	4.50	1.0	-0.16	···	0.426	-4.529	A	···	CTIO
46535	82241	F8 V Fe-0.4	···	6323	4.15	2.5	-0.18	···	0.328	-4.368	A	···	CTIO
46626	82342	K3.5 V	···	···	···	···	···	···	0.161	-5.131	VI	···	CTIO
46651	82434	F3 V Fe-0.7	···	6837	3.77	1.8	-0.27	···	···	···	···	···	CTIO
46677	82516	K2 V	···	4995	4.43	1.0	-0.02	···	0.171	-5.058	I	···	CTIO
46843	82443	K1 V (k)	···	···	···	···	···	···	0.618	-4.234	A	···	CTIO
46933	···	K5 V (k)	···	···	···	···	···	···	1.259	-4.497	A	···	CTIO
47007	82943	F9 V Fe+0.5	···	5910	4.31	1.0	0.17	···	0.165	-4.951	I	···	SO
47085	···	M0.5 V k	···	···	···	···	···	···	···	···	···	···	CTIO
47103	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
47175	83446	A7 V	···	7977	3.98	2.0	0.12	···	···	···	···	···	CTIO
47225	83529	G0- V	···	5889	4.33	1.0	-0.30	···	0.161	-4.949	I	···	CTIO
47333	···	K6 V (k)	···	···	···	···	···	···	0.466	-4.866	I	···	CTIO
47490	309701	K3 V	···	···	···	···	···	···	0.312	-4.800	I	···	CTIO
47592	84117	F8 V	···	6205	4.24	1.0	-0.09	···	0.173	-4.862	I	···	SO
47619	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
47645	···	K2.5 V (k)	···	···	···	···	···	···	0.513	-4.298	A	···	SO
47890	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
48072	84991	G0- V	···	5959	4.37	1.0	-0.23	···	0.182	-4.839	I	···	CTIO
48125	85043	F4 V	···	6607	4.15	2.0	-0.12	···	···	···	···	···	SO
48133	85228	K2 V CN+0.5	···	5035	4.40	1.0	0.08	···	0.197	-4.949	I	···	CTIO
48235	85390	K1.5 V	···	5069	4.48	1.0	-0.11	···	0.158	-5.063	I	···	CTIO
48331	85512	K6 V (k)	···	···	···	···	···	···	0.503	-4.849	I	···	CTIO
48594	86140	K2.5 V (k)	···	4788	4.67	1.0	-0.37	···	0.274	-4.829	I	···	CTIO
48659	···	M3 V	···	···	···	···	···	···	···	···	···	···	CTIO
48680	86065	K2.5 V	···	···	···	···	···	···	0.266	-4.844	I	···	SO
48718	86249	K2.5 V	···	4904	4.56	1.0	0.06	···	0.277	-4.813	I	···	CTIO
48762	-11 2763	K2.5 V (k)	···	···	···	···	···	···	0.372	-4.704	A	···	SO
48926	86629	F1 V	···	7132	3.94	2.6	-0.20	···	···	···	···	···	CTIO
48953	-08 2813	K4 V (k)	···	···	···	···	···	···	0.769	-4.550	A	···	SO
49127	86972	K3+ V (k)	···	···	···	···	···	···	0.703	-4.482	A	···	SO
49359	87521	K3- V (k)	···	···	···	···	···	···	0.481	-4.639	A	···	CTIO
49366	87424	K2 V (k)	···	···	···	···	···	···	0.456	-4.507	A	···	SO
49376	···	M2+ V	···	···	···	···	···	···	···	···	···	···	CTIO
49668	87998	G0 V	···	5773	4.34	1.0	-0.19	···	0.158	-4.997	I	···	SO
49674	87978	G5 V	···	5593	4.50	1.0	0.02	···	0.313	-4.519	A	···	SO
49728	88084	G2 V	···	5729	4.43	1.0	-0.06	···	0.165	-4.965	I	···	SO
49769	88218	G0 V	···	5944	4.13	1.0	0.08	···	0.166	-4.938	I	···	CTIO
49806	···	K6.5 V (k)	···	···	···	···	···	···	1.455	-4.645	A	···	CTIO
49809	88215	F2 V	···	6776	3.96	2.0	-0.19	···	···	···	···	···	SO
49841	88284	K0 III CN+1	···	···	···	···	···	···	0.141	···	···	···	SO
49889	···	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO
50075	88742	G0 V	···	5992	4.42	1.0	0.00	···	0.190	-4.806	I	···	SO
50191	88955	A2 Va	···	8829	4.14	2.0	0.02	···	···	···	···	···	CTIO
50267	···	K9 V k	···	···	···	···	···	···	1.798	-4.690	A	···	SO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
50493	89569	F6 V	···	6401	3.99	2.0	-0.12	···	0.217	-4.633	A	···	CTIO
50671	89707	G2 V Fe-1.5 CH-0.8	···	5999	4.48	1.0	-0.48	···	0.266	-4.530	A	···	SO
50696	···	M0.5 V (k)	···	···	···	···	···	···	···	···	···	···	SO
50796	-09 3055	K4+ V k	···	···	···	···	···	···	1.559	···	···	···	SO
50798	90034B	K0 IIIa Ba+1	*	···	···	···	···	···	···	···	···	···	CTIO
50804	90034	A3 IV-V	*	···	···	···	···	···	···	···	···	···	CTIO
50921	90156	G5 V	···	5578	4.52	1.0	-0.26	···	0.167	-4.960	I	···	SO
50944	-09 3063	K5.5 V	···	···	···	···	···	···	0.710	-4.828	I	···	SO
50954	90589	F3 V	···	6885	4.24	2.2	0.02	···	···	···	···	···	CTIO
51138	307727	K6+ V (k)	···	···	···	···	···	···	0.761	-4.782	I	···	CTIO
51138	307727B	M0.5- V	···	···	···	···	···	···	···	···	···	···	CTIO
51228	90712	G0 V CH-0.3	···	5953	4.41	1.0	-0.02	···	0.288	-4.494	A	···	CTIO
51263	···	K5 V	···	···	···	···	···	···	0.212	-5.246	VI	···	CTIO
51266	90885	K0.5 V (k)	···	···	···	···	···	···	0.361	-4.550	A	···	CTIO
51266	90885B	K1 V (k)	···	···	···	···	···	···	0.461	···	···	···	CTIO
51271	90884	K3.5 V (k)	···	···	···	···	···	···	0.796	-4.457	A	···	CTIO
51297	90812	K0.5 V	···	5195	4.64	1.0	-0.24	···	0.153	-5.078	I	···	CTIO
51443	···	K5 V (k)	···	···	···	···	···	···	0.915	-4.587	A	···	CTIO
51473	···	M1 V (k)	···	···	···	···	···	···	···	···	···	···	CTIO
51523	91324	F9 V Fe-0.8 CH-0.7	···	6287	4.04	1.6	-0.17	···	0.186	-4.766	I	···	CTIO
51568	···	K6.5 V	···	···	···	···	···	···	0.954	-4.860	I	···	CTIO
51884	91816	K1.5 V (k)	···	···	···	···	···	···	0.518	-4.398	A	···	CTIO
51928	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
51933	91889	F8 V	···	6119	4.10	1.0	-0.14	···	0.173	-4.849	I	···	SO
51986	92139	F0 Vp kA5 Sr	···	7274	4.05	3.7	-0.22	···	···	···	···	···	CTIO
52190	···	M2.5 V kee	···	···	···	···	···	···	···	···	···	···	CTIO
52341	A	M0 V (k)	*	···	···	···	···	···	···	···	···	···	CTIO
52341	B	M2+ V	*	···	···	···	···	···	···	···	···	···	CTIO
52369	92719	G1.5 V	···	5775	4.49	1.0	-0.20	···	0.190	-4.826	I	···	SO
52462	92945	K1.5 V (k)	···	5015	4.52	1.0	-0.08	···	0.549	-4.393	A	···	CTIO
52521	93083	K2 IV-V	···	···	···	···	···	···	0.166	-5.082	I	···	CTIO
52535	93372	F6 V Fe+0.4	···	6380	4.27	1.9	0.01	···	0.217	-4.651	A	···	CTIO
52596	···	M1.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
52708	93380	K5 V (k)	···	···	···	···	···	···	0.806	-4.659	A	···	SO
52727	93497	G6 III	···	···	···	···	···	···	0.146	-5.136	VI	···	CTIO
52776	···	K4.5 V (k)	···	···	···	···	···	···	1.251	-4.451	A	···	CTIO
52787	93528	K1 V (k)	···	···	···	···	···	···	0.470	-4.424	A	···	CTIO
53087	94151	G8 V	···	5601	4.36	1.0	0.07	···	0.171	-4.957	I	···	CTIO
53114	···	M1.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
53186	94268	G0 V Fe-0.7 CH-0.3	···	6000	4.55	1.0	-0.51	···	0.205	-4.724	A	···	CTIO
53252	94388	F6 IV-	···	6321	3.80	2.6	-0.17	···	0.173	-4.817	I	···	CTIO
53253	94510	K0 IV	···	···	···	···	···	···	0.125	···	···	···	CTIO
53685	95263	F9 V Fe-0.8 CH-0.7	···	6274	4.26	1.9	-0.29	···	0.205	-4.687	A	···	CTIO
53719	95338	K1 IV-V	···	5041	4.43	1.0	0.04	···	0.147	-5.123	VI	···	CTIO
53776	···	M0.5 V k	···	···	···	···	···	···	···	···	···	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
53818	95456	F8 V	···	6269	4.20	1.0	0.12	···	0.151	-4.988	I	···	CTIO
53837	95521	G2 V	···	5793	4.50	1.0	-0.08	···	0.173	-4.917	I	···	CTIO
54287	96423	G5 V	···	5747	4.35	1.0	0.12	···	0.149	-5.080	I	···	CTIO
54288	···	K6+ V (k)	···	···	···	···	···	···	0.973	-4.740	A	···	CTIO
54298	96507B	F5 V	*	···	···	···	···	···	···	···	···	···	CTIO
54348	96673	K3+ V	···	4646	4.66	1.0	-0.12	···	0.381	-4.746	A	···	CTIO
54400	96700	G0 V	···	5879	4.36	1.0	-0.14	···	0.166	-4.938	I	···	CTIO
54418	···	K6 V (k)	···	···	···	···	···	···	0.827	-4.762	I	···	CTIO
54530	96941	G9 V	···	···	···	···	···	···	0.151	-5.073	I	···	CTIO
54651	97214	K5 V	···	···	···	···	···	···	0.276	-4.992	I	···	SO
54677	97233	K5 V (k)	···	···	···	···	···	···	0.762	-4.733	A	···	SO
54704	97343	G8.5 V	···	5359	4.47	1.0	-0.14	···	0.162	-5.017	I	···	SO
54806	97578	C-J4 $C_2$5	*	···	···	···	···	···	···	···	···	···	CTIO
54922	97782	K5 V	···	···	···	···	···	···	0.340	-4.943	I	···	SO
55013	97998	G1 V	···	5754	4.58	1.0	-0.40	···	0.181	-4.875	I	···	CTIO
55014	···	K5 V (k)	···	···	···	···	···	···	0.884	-4.651	A	···	CTIO
55031	···	F6 Vp Sr	*	···	···	···	···	···	0.201	···	···	···	CTIO
55052	···	K7- V k	···	···	···	···	···	···	2.231	-4.314	A	···	CTIO
55280	98560	F5 V	···	6486	4.16	2.1	-0.06	···	0.212	-4.643	A	···	CTIO
55363	98553	G2 V Fe-0.7	···	5912	4.52	1.0	-0.50	···	0.192	-4.793	I	···	CTIO
55454	98712	K6 V ke	···	···	···	···	···	···	3.327	-4.317	A	···	SO
55633	99116	G8 V	···	5467	4.48	1.0	-0.14	···	0.165	-4.992	I	···	CTIO
55691	99279	K5- V	···	···	···	···	···	···	0.641	-4.921	I	···	CTIO
55691	99279B	K7- V (k)	···	···	···	···	···	···	1.473	···	···	···	CTIO
55705	99211	A7 V(n)	···	7805	3.86	2.0	0.04	*	···	···	···	···	SO
55779	99453	F7 V	···	6361	4.14	1.8	0.06	···	0.184	-4.768	I	···	CTIO
55875	99565	G8 V Fe+0.5	···	···	···	···	···	···	0.226	-4.767	I	···	CTIO
55900	99610	G4 V CN+0.5	···	5659	4.34	1.0	0.09	···	0.175	-4.940	I	···	CTIO
56128	···	K4.5 V (k)	···	···	···	···	···	···	0.463	-4.342	A	···	CTIO
56153	304391	K3.5 V (k)	···	···	···	···	···	···	0.738	-4.506	A	···	CTIO
56157	···	M3 V	···	···	···	···	···	···	···	···	···	···	SO
56245	100219	F8 V	···	6213	4.09	1.0	-0.03	···	0.155	-4.964	I	···	CTIO
56280	100286	F8 IV-V Ca wk	*	6221	3.96	2.2	-0.12	···	0.158	-4.944	I	···	CTIO
56280	100287	F9 V	*	6244	4.14	1.0	0.05	···	0.167	-4.891	I	···	CTIO
56284	···	M1.5 V k	···	···	···	···	···	···	···	···	···	···	SO
56326	100395	G0 V	···	6110	4.19	1.0	0.16	···	0.158	-4.974	I	···	CTIO
56343	100407	G7 III	···	4967	2.78	1.0	0.01	K	···	···	···	···	CTIO
56363	100508	K1 IV	···	···	···	···	···	···	0.155	···	···	···	CTIO
56367	···	M0 V k	···	···	···	···	···	···	···	···	···	···	SO
56445	100563	F5.5 V	···	6503	4.22	2.0	-0.04	···	0.254	-4.519	A	···	CTIO
56452	100623	K0− V	···	5141	4.58	1.0	-0.43	···	0.195	-4.907	I	···	SO
56489	-12 3458	K7 V	···	···	···	···	···	···	0.484	-4.834	I	···	SO
56715	···	K6+ V	···	···	···	···	···	···	0.896	-4.808	I	···	CTIO
56802	101198	F6.5 V	···	6246	3.94	2.0	-0.20	···	0.164	-4.898	I	···	SO
56838	···	K6 V	···	···	···	···	···	···	0.560	-4.883	I	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
56998	101581	K4.5 V (k)	···	···	···	···	···	···	0.433	-4.759	I	···	CTIO
57021	101614	G0 V	···	5887	4.32	1.0	-0.32	···	0.181	-4.849	I	···	CTIO
57092	101805	F8 V	···	6278	4.26	1.0	0.14	···	0.158	-4.938	I	···	CTIO
57172	101930	K2 V+	···	···	···	···	···	···	0.157	-5.097	I	···	CTIO
57217	101959	F9 V	···	6137	4.41	1.0	0.00	···	0.182	-4.815	I	···	CTIO
57271	102071	K0.5 V	···	5265	4.42	1.0	0.06	···	0.212	-4.848	I	···	CTIO
57361	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
57363	102249	A7 V	···	7943	3.70	2.0	0.27	*	···	···	···	···	CTIO
57443	102365	G2 V	···	5688	4.51	1.0	-0.28	···	0.168	-4.957	I	···	CTIO
57494	102392	K4.5 V	···	···	···	···	···	···	0.491	-4.811	I	···	SO
57507	102438	G6 V	···	5528	4.51	1.0	-0.36	···	0.175	-4.924	I	···	SO
57572	102579	K1 V	···	5164	4.33	1.0	0.04	···	0.153	-5.125	VI	···	CTIO
57572	102579B	K6.5 V (k)	···	···	···	···	···	···	1.259	-4.514	A	···	CTIO
57645	102677	G3 V	···	···	···	···	···	···	0.203	-4.939	I	···	CTIO
57841	103026	F9 V	···	6166	4.07	1.0	0.01	···	0.155	-4.970	I	···	CTIO
58106	103493	G5 V Fe-0.7	···	5754	4.21	1.0	-0.04	···	0.214	-4.746	A	···	CTIO
58170	···	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO
58240	103742	G1.5 V	*	5749	4.54	1.0	0.00	*	0.325	-4.482	A	···	CTIO
58241	103743	G2 V	*	5784	4.63	1.0	0.07	···	0.388	-4.359	A	···	CTIO
58293	103836	K3.5 V	···	···	···	···	···	···	0.473	-4.660	A	···	SO
58345	103932	K4+ V	···	···	···	···	···	···	0.432	-4.868	I	···	SO
58374	103949	K3 V	···	···	···	···	···	···	0.285	-4.845	I	···	SO
58380	103975	F8.5 V Fe-0.5	···	6250	4.32	1.0	-0.05	···	0.175	-4.840	I	···	CTIO
58397	103991	K2.5 V	···	···	···	···	···	···	0.155	-5.108	VI	···	CTIO
58401	104006	K0.5 V	···	5116	4.70	1.0	-0.65	···	0.134	-5.189	VI	···	CTIO
58451	104067	K3− V (k)	···	···	···	···	···	···	0.337	-4.751	I	···	SO
58576	104304	G8 IV	···	5538	4.35	1.0	0.22	···	0.180	-4.933	I	···	SO
58803	104731	F5 V	···	6638	4.20	2.1	-0.17	···	0.277	-4.427	A	···	CTIO
58880	···	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO
58950	104982	G2 V	···	5750	4.50	1.0	-0.13	···	0.168	-4.949	I	···	CTIO
59000	105065	K7− V ke	···	···	···	···	···	···	3.150	-4.341	A	···	SO
59072	105211	F2 V	···	6950	4.01	2.2	-0.04	···	···	···	···	···	CTIO
59135	105330	F8 V	···	6250	4.37	1.0	0.01	···	0.199	-4.731	A	···	CTIO
59143	105328	G0 V	···	5933	4.16	1.0	0.07	···	0.158	-4.987	I	···	CTIO
59199	105452	F1 V	···	7081	4.23	2.0	-0.16	*	···	···	···	···	SO
59272	105590	G3+ V	···	5670	4.35	1.0	-0.08	···	0.173	-4.928	I	···	SO
59296	105671	K4 V (k)	···	···	···	···	···	···	0.742	-4.646	A	···	CTIO
59315	105690	G6 V (k)	···	5520	4.50	1.0	-0.13	···	0.412	-4.378	A	···	CTIO
59380	105837	G0 V Fe-0.9	···	6001	4.44	1.0	-0.43	···	0.209	-4.713	A	···	CTIO
59426	105913	G6 V	···	5449	4.14	1.0	0.07	···	0.343	-4.530	A	···	SO
59426	105913B	G7 V	···	5486	4.13	1.0	0.14	···	···	···	···	···	SO
59616	···	M1- V (k)	···	···	···	···	···	···	···	···	···	···	CTIO/SO
59639	106275	K2 V	···	4942	4.51	1.0	-0.14	···	0.154	-5.098	I	···	CTIO
59707	106453	G7 V	···	···	···	···	···	···	0.268	-4.629	A	···	SO
59726	106489	G2 V	···	5750	4.52	1.0	-0.05	···	0.252	-4.631	A	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
59750	106516	F9 V Fe−1.7 CH−0.7	···	6288	4.41	1.0	-0.53	···	0.381	-4.265	A	*	CTIO/SO
59780	106549	K7 V (k)	···	···	···	···	···	···	1.617	-4.691	A	···	CTIO
59925	···	K5− V k	···	···	···	···	···	···	1.206	-4.466	A	···	SO
60207	107388	K3 V (k)	···	···	···	···	···	···	1.516	-4.607	A	···	SO
60310	107576	K3.5 V	···	···	···	···	···	···	0.381	-4.817	I	···	CTIO
60370	107692	G1.5 V	···	5804	4.39	1.0	0.08	···	0.207	-4.765	I	···	CTIO
60553	···	K3 V k	···	···	···	···	···	···	2.323	-3.953	VA	*	CTIO
60644	108147	F8 V CH+0.4	···	6248	4.35	1.0	0.12	···	0.171	-4.866	I	···	CTIO
60729	108309	G2 V	···	5750	4.21	1.0	0.09	···	0.147	-5.087	I	···	CTIO
60808	108446	K2 V	···	5043	4.48	1.0	-0.11	···	0.265	-4.763	I	···	CTIO
60853	108564	K5 V metal weak	*	···	···	···	···	···	0.186	-5.039	I	···	SO
60866	108581	K5 V (k)	···	···	···	···	···	···	0.832	-4.727	A	···	SO
60930	108682	K0 V	···	5252	4.66	1.0	-0.36	···	0.166	-5.003	I	···	CTIO
60965	108767	A0 IV(n) kB9	···	10207	3.97	2.0	-0.07	*	···	···	···	···	SO
60994	108799	F9− V	···	5991	4.40	1.0	-0.05	···	0.307	-4.460	A	···	SO
61097	108935	K4 V	···	···	···	···	···	···	0.384	-4.920	I	···	CTIO
61174	109085	F2 V	···	6784	4.06	2.0	-0.07	*	···	···	···	···	SO
61212	109141	F2 V(n)	···	6819	3.68	2.0	-0.19	···	···	···	···	···	SO
61291	109200	K1 V	···	5051	4.55	1.0	-0.30	···	0.145	-5.124	VI	···	CTIO
61313	109252	K2.5 V (k)	···	4840	4.62	1.0	-0.29	···	0.297	-4.777	I	···	CTIO
61329	109333	K4.5 V	···	···	···	···	···	···	0.611	-4.667	A	···	SO
61363	109368	K4.5 V (k)	···	···	···	···	···	···	0.757	-4.605	A	···	CTIO
61379	109409	G3 IV	···	5752	3.99	1.0	0.18	···	0.145	-5.111	VI	···	CTIO
61391	109423	K2 V	···	···	···	···	···	···	0.351	-4.649	A	···	CTIO
61406	···	K4- V	···	···	···	···	···	···	0.244	-5.049	I	···	CTIO
61451	109524	K3.5 V (k)	···	···	···	···	···	···	0.537	-4.603	A	···	CTIO
61468	109536	A7 V	···	7646	3.98	2.0	0.05	···	···	···	···	···	CTIO
61476	109570	G6.5 V	···	5576	4.49	1.0	-0.11	···	0.179	-4.909	I	···	CTIO/SO
61621	109799	F1 V	···	6947	3.95	2.2	-0.09	···	···	···	···	···	CTIO/SO
61792	109952	K5.5 V (k)	···	···	···	···	···	···	0.691	-4.693	A	···	CTIO
61872	···	K6.5 V (k)	···	···	···	···	···	···	0.954	-4.797	I	···	CTIO
61932	110304	A1 IV+	···	9082	3.52	2.0	-0.29	···	···	···	···	···	CTIO
61998	110420	G8.5 V	···	5403	4.52	1.0	-0.19	···	0.194	-4.852	I	···	CTIO
62107	110619	G5 V	···	5635	4.59	1.0	-0.44	···	0.188	-4.856	I	···	SO
62229	110810	K2+ V (k)	···	···	···	···	···	···	0.599	-4.441	A	···	CTIO
62268	110829	K2- III	···	···	···	···	···	···	0.158	···	···	···	CTIO
62333	110971	K4 V k	···	···	···	···	···	···	2.034	-4.140	VA	*	CTIO
62345	111031	G5 V	···	5627	4.26	1.0	0.06	···	0.156	-5.031	I	···	SO
62387	···	K1 III-IV	···	···	···	···	···	···	···	···	···	···	CTIO
62403	111038	K1 V k	···	5177	4.48	1.0	-0.18	*	0.908	-4.072	VA	*	CTIO
62471	···	K7 V (k)	···	···	···	···	···	···	1.317	-4.781	I	···	SO
62472	111261	K5− V (k)	···	···	···	···	···	···	0.666	-4.710	A	···	SO
62505	111312	K2.5 V (k)	···	···	···	···	···	···	0.466	-4.571	A	···	SO
62534	111232	G8 V Fe-1.0	···	5502	4.46	1.0	-0.39	···	0.150	-5.075	I	···	CTIO
62647	-16 3543	K6 V (k)	···	···	···	···	···	···	0.835	-4.790	I	···	SO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
63033	112164	F9 Vp	*	6001	3.87	1.0	0.22	*	0.135	-5.189	VI	*	CTIO
63157	···	K5.5 V k	···	···	···	···	···	···	1.522	-4.480	A	···	SO
63257	112575	K4.5 V	···	···	···	···	···	···	0.509	-4.780	I	···	SO
63353	112646	K6 V (k)	···	···	···	···	···	···	0.776	-4.757	I	···	CTIO
63366	112758	G9 V	···	5174	4.60	1.0	-0.44	···	0.154	-5.067	I	···	SO
63467	112943	K5.5 V	···	···	···	···	···	···	0.556	-4.854	I	···	SO
63512	···	K8 V k	···	···	···	···	···	···	1.954	···	···	···	CTIO
63550	···	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO
63613	112985	K2 III	···	···	···	···	···	···	0.183	···	···	···	CTIO
63618	113194	K5 V (k)	···	···	···	···	···	···	0.820	-4.733	A	···	CTIO/SO
63738	113415	F8.5 V	···	6132	4.10	1.0	0.12	···	0.152	-4.993	I	···	SO
63809	···	M1- V	···	···	···	···	···	···	···	···	···	···	CTIO
63833	113538	K9 V (k)	···	···	···	···	···	···	1.490	-4.697	A	···	CTIO
63973	113767	K0.5 V (k)	···	5230	4.53	1.0	-0.03	···	0.312	-4.619	A	···	CTIO
64109	112540	G7 V	···	5502	4.48	1.0	-0.03	···	0.168	-4.975	I	···	CTIO
64219	114260	G8 V	···	5418	4.45	1.0	-0.22	···	0.168	-4.973	I	···	SO
64295	114386	K3 V	···	···	···	···	···	···	0.210	-4.996	I	···	CTIO
64303	114432	G8- V (k)	···	5301	4.30	1.0	0.04	···	0.290	-4.618	A	···	CTIO/SO
64407	114642	F5.5 V	···	6394	3.89	2.0	-0.16	···	0.241	-4.544	A	···	CTIO/SO
64408	114613	G4 IV	···	5574	3.90	1.0	0.06	···	0.144	-5.118	VI	···	SO
64428	···	K3.5 V (k)	···	···	···	···	···	···	0.393	-4.760	I	···	CTIO/SO
64441	···	K3.5 V (k)	···	···	···	···	···	···	0.448	-4.714	A	···	CTIO
64459	114729	G0 V	···	5860	4.21	1.0	-0.30	···	0.143	-5.094	I	···	CTIO
64475	114747	K2 III-IV	···	4989	4.42	1.0	0.31	···	···	···	···	···	CTIO
64478	114630	G0 Vp k	*	5962	3.97	1.0	-0.16	···	0.354	-4.375	A	*	CTIO
64550	114853	G1.5 V	···	5749	4.50	1.0	-0.25	···	0.170	-4.936	I	···	CTIO
64577	114946	G9 IV	···	5089	3.08	1.0	-0.26	···	0.125	···	···	···	SO
64583	114837	F6 V Fe-0.4	···	6390	4.13	2.0	-0.22	···	0.190	-4.741	A	···	CTIO
64638	115080	G1.5 V	···	5606	4.20	1.0	-0.17	···	0.147	-5.092	I	···	CTIO/SO
64690	113283	G5 V	···	5679	4.49	1.0	0.05	···	0.234	-4.720	A	···	CTIO
64725	115202	K1 III	···	4750	2.80	1.0	-0.06	K	0.128	···	···	···	CTIO/SO
64763	···	K8 V (k)	···	···	···	···	···	···	1.540	-4.742	A	···	CTIO
64790	115149	F4 V	···	6626	4.14	2.4	-0.11	···	···	···	···	···	CTIO
64924	115617	G7 V	···	5503	4.44	1.0	-0.11	···	0.161	-5.011	I	···	SO
65083	···	M1.5 V (k)	···	···	···	···	···	···	···	···	···	···	SO
65109	115892	kA1.5hA3mA3 Va	···	10207	4.06	2.0	0.32	···	···	···	···	···	SO
65266	116219	F9− V	···	···	···	···	···	···	0.162	···	···	···	SO
65269	116220	F8.5 V	···	···	···	···	···	···	0.157	-5.022	I	···	CTIO/SO
65302	115674	G5 V Fe-0.7	···	5590	4.52	1.0	-0.27	···	0.173	-4.929	I	···	CTIO
65362	···	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO/SO
65479	116457	F4 V	···	6632	3.97	2.3	-0.13	···	···	···	···	···	CTIO
65574	116858	K2.5 V (k)	···	···	···	···	···	···	0.264	-4.815	I	···	CTIO/SO
65602	116920	K2+ V	···	···	···	···	···	···	0.207	-4.936	I	···	CTIO/SO
65636	116963	K4 V k	···	···	···	···	···	···	0.745	-4.564	A	···	CTIO/SO
65669	···	M1.5 V	···	···	···	···	···	···	···	···	···	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
65737	117105	F9.5 V	···	5968	4.41	1.0	-0.20	···	0.167	-4.915	I	···	CTIO/SO
65808	117207	G7 IV-V	···	5533	4.30	1.0	0.09	···	0.151	-5.070	I	···	CTIO
65906	117383	K5.5 V (k)	···	···	···	···	···	···	1.120	-4.711	A	···	CTIO
65924	···	K8 V	···	···	···	···	···	···	1.154	-4.792	I	···	CTIO
66047	117618	G0 V	···	6001	4.31	1.0	0.05	···	0.168	-4.922	I	···	CTIO
66121	117360	F8 V Fe-0.9	···	6397	4.27	1.0	-0.18	···	0.203	-4.669	A	···	CTIO
66125	···	K2.5 V (k)	···	···	···	···	···	···	0.341	-4.674	A	···	CTIO
66139	117807	F5.5 V	···	6475	4.24	2.0	-0.07	···	0.201	-4.685	A	···	CTIO
66182	···	F5 V	*	···	···	···	···	···	···	···	···	···	CTIO
66219	117938	K3.5 V (k)	···	···	···	···	···	···	0.537	-4.603	A	···	CTIO
66229	117987	K3 V	···	4699	4.52	1.0	-0.26	···	0.184	-5.062	I	···	CTIO
66238	117939	G4 V	···	5726	4.43	1.0	-0.15	···	0.178	-4.903	I	···	SO
66438	118261	F6 V	···	6306	4.04	1.1	-0.05	···	0.221	-4.623	A	···	CTIO
66486	118465	G1.5 V	···	5588	4.34	1.0	-0.07	···	0.293	-4.559	A	···	SO
66618	118475	F9 V Fe+0.3	···	5942	4.32	1.0	0.12	···	0.160	-4.983	I	···	CTIO
66678	···	K6.5 V	···	···	···	···	···	···	0.823	-4.924	I	···	CTIO
66765	118972	K0 V (k)	···	5042	4.50	1.0	-0.20	···	0.477	-4.439	A	···	SO
66918	-20 3868	K6 V (k)	···	···	···	···	···	···	0.738	-4.812	I	···	CTIO/SO
66987	119503	K3− V (k)	···	···	···	···	···	···	0.571	-4.518	A	···	SO
66993	···	M0 V	···	···	···	···	···	···	···	···	···	···	CTIO
67069	119638	F8.5 V	···	6081	4.39	1.0	-0.11	···	0.173	-4.856	I	···	SO
67153	119756	F2 V	···	6781	3.98	2.0	-0.09	···	···	···	···	···	SO
67166	···	M0 V (k)	···	···	···	···	···	···	···	···	···	···	CTIO/SO
67237	119782	K1.5 V (k)	···	5036	4.46	1.0	-0.13	···	0.239	-4.814	I	···	CTIO
67308	120036B	K7- V	···	···	···	···	···	···	1.714	-4.636	A	···	CTIO
67308	120036	K6.5 V (k)	···	···	···	···	···	···	1.698	-4.578	A	···	CTIO
67344	120205	K0− V (k)	···	5174	4.55	1.0	-0.02	···	0.378	-4.535	A	···	SO
67408	120237	F8.5 V	···	6177	4.27	1.0	0.06	···	0.192	-4.779	I	···	SO
67487	120467	K5.5 V (k)	···	···	···	···	···	···	0.799	-4.810	I	···	CTIO/SO
67601	120491	K4.5 V	···	···	···	···	···	···	0.630	-4.670	A	···	CTIO
67620	120690	G5+ V	···	5535	4.42	1.0	-0.15	···	0.237	-4.703	A	···	CTIO/SO
67655	120559	G7 V Fe-1.4 CH-1	···	5621	4.74	1.0	-0.67	···	0.155	-5.029	I	···	CTIO
67742	120780	K2 V	···	4928	4.56	1.0	-0.27	···	0.219	-4.888	I	···	CTIO
67761	···	M2 V (k)	···	···	···	···	···	···	···	···	···	···	SO
67795	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
67798	···	M1 V k	···	···	···	···	···	···	···	···	···	···	CTIO/SO
67960	121271	M0 V k	···	···	···	···	···	···	···	···	···	···	SO
67986	120744	K2 V (k)	···	4953	4.52	1.0	-0.11	···	0.188	-4.989	I	···	CTIO
68101	121384	G8 V CH+0.3 Ca I wk	···	5250	3.63	1.0	-0.46	···	0.130	-5.220	VI	···	CTIO
68273	121849	G5 V	···	5575	4.56	1.0	-0.34	···	0.149	-5.082	I	···	CTIO
68462	···	M0 V k	···	···	···	···	···	···	···	···	···	···	SO
68641	122510	F5 V	···	6498	4.00	2.0	-0.14	···	0.265	-4.491	A	···	CTIO
68772	···	K4 V (k)	···	···	···	···	···	···	0.541	-4.705	A	···	CTIO
68895	123123	K1 III-IV	···	···	···	···	···	···	0.150	···	···	···	SO
68933	123139	K0 III	···	···	···	···	···	···	0.141	···	···	···	SO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
69075	123333	K3 V (k)	···	4724	4.68	1.0	-0.53	···	0.241	-4.882	I	···	CTIO
69090	122862	F9.5 V	···	6002	4.14	1.0	-0.05	···	0.154	-4.998	I	···	CTIO
69163	···	M0.5 V ke	···	···	···	···	···	···	···	···	···	···	CTIO/SO
69285	···	M2 V	···	···	···	···	···	···	···	···	···	···	SO
69357	124106	K1 V (k)	···	4983	4.55	1.0	-0.12	···	0.307	-4.675	A	···	SO
69562	124498	K5.5 V kee	···	···	···	···	···	···	5.576	-3.982	VA	*	SO
69570	124364	G5 V	···	5629	4.59	1.0	-0.22	···	0.166	-4.966	I	···	CTIO
69578	···	B2 III SB	*	···	···	···	···	···	···	···	···	···	CTIO
69671	124580	G0 V	···	5913	4.45	1.0	-0.15	···	0.252	-4.597	A	···	CTIO
69965	125276	F9 V Fe−1.5 CH−0.7	···	6129	4.24	1.0	-0.55	···	0.221	-4.641	A	···	SO
69972	125072	K3 IV	···	4903	4.48	1.0	0.45	···	0.224	-5.010	I	···	CTIO
70170	125595	K4 V (k)	···	···	···	···	···	···	0.364	-4.913	I	···	CTIO
70459	125881	G0- V	···	6051	4.37	1.0	0.12	···	0.179	-4.858	I	···	CTIO
70472	···	K7 V	···	···	···	···	···	···	0.964	-4.728	A	···	SO
70610	125271	K3+ V (k)	···	4618	4.67	1.0	-0.29	···	0.236	-4.984	I	···	CTIO
70656	···	K5 V	···	···	···	···	···	···	0.331	-4.955	I	···	CTIO
70695	126525	G4 V	···	5586	4.44	1.0	-0.23	···	0.155	-5.034	I	···	CTIO
70756	126829	K4+ V (k)	···	···	···	···	···	···	1.004	-4.481	A	···	SO
70849	···	K7 V k	···	···	···	···	···	···	1.887	-4.697	A	···	CTIO
70924	126999	K6 V	···	···	···	···	···	···	0.614	-4.810	I	···	CTIO
71469	128429	F6 V	···	6445	4.27	2.0	-0.09	···	0.287	-4.428	A	···	SO
71481	128356	K2.5 IV	···	···	···	···	···	···	0.214	-4.768	I	···	SO
71530	128020	F8.5 V Fe-0.6	···	6287	4.32	1.6	-0.11	···	0.186	-4.772	I	···	CTIO
71639	128582	F8 V	···	6274	4.10	1.0	0.09	···	0.158	-4.924	I	···	CTIO
71681	128621	K2 IV C2+1 **	···	···	···	···	···	···	0.157	···	···	···	CTIO
71682	128787	F5 V	···	6501	4.33	2.0	-0.21	···	0.316	-4.375	A	···	SO
71683	128620	G2 V	···	···	···	···	···	···	0.153	-5.059	I	···	CTIO
71686	···	K3.5 V (k)	*	···	···	···	···	···	0.758	-4.541	A	···	SO
71735	128674	G7 V	···	5639	4.44	1.0	-0.15	···	0.153	-5.050	I	···	CTIO
71743	128987	G8 V (k)	···	5503	4.52	1.0	0.00	···	0.369	-4.439	A	···	SO
71855	128400	G5 V	···	5558	4.50	1.0	-0.05	···	0.322	-4.518	A	···	CTIO
71908	128898	A7 Vp SrCrEu	*	7631	4.11	1.2	0.36	···	···	···	···	···	CTIO
71957	129502	F2 V	···	6751	4.21	2.8	-0.05	···	···	···	···	···	CTIO
72048	129060	F8 V	···	6250	4.40	1.0	0.16	···	0.312	-4.426	A	···	CTIO
72119	129642	K2+ V	···	4800	4.49	1.0	-0.19	···	0.138	-5.189	VI	···	CTIO
72197	129926	F0 IV	···	7172	3.94	2.0	0.17	···	···	···	···	···	SO
72399	130260	K3 V k	*	···	···	···	···	···	2.076	-4.114	VA	*	CTIO
72400	···	K5.5 V (k)	*	···	···	···	···	···	1.176	···	···	···	CTIO
72493	130042	K1 V	···	5101	4.31	1.0	-0.09	···	0.186	-4.949	I	···	CTIO
72603	130819	F4 V	···	6745	4.25	2.0	-0.02	···	···	···	···	···	SO
72622	130841	kA2hA5mA4 IV-V	···	8128	3.91	2.0	-0.24	···	···	···	···	···	SO
72685	130922B	F8.5 V Fe−0.5	*	···	···	···	···	···	0.177	-4.860	I	···	CTIO/SO
72688	130992	K3.5 V	···	4654	4.59	1.0	-0.09	···	0.296	-4.904	I	···	SO
72742	130930	K2 V	···	4926	4.46	1.0	0.00	···	0.146	-5.141	VI	···	CTIO
73066	131719	K3 V (k)	···	···	···	···	···	···	0.545	-4.567	A	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	log g	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
73169	···	M0 V k	···	···	···	···	···	···	···	···	···	···	SO
73182	131976	M1.5 V	···	···	···	···	···	···	···	···	···	···	CTIO/SO
73184	131977	K4 V	···	···	···	···	···	···	0.534	-4.727	A	···	CTIO/SO
73241	131923	G4 V	···	5497	4.26	1.0	-0.19	···	0.153	-5.059	I	···	CTIO
73362	···	K6.5 V (k)	···	···	···	···	···	···	1.363	-4.674	A	···	CTIO
73383	132301	F6 V	···	6447	4.31	1.7	-0.11	···	0.260	-4.505	A	···	CTIO
73457	132683	K8 V k	···	···	···	···	···	···	1.809	-4.628	A	···	SO
73547	132648	G8.5 V	···	5429	4.55	1.0	-0.24	···	0.170	-4.966	I	···	CTIO
73631	···	K5.5 V (k)	···	···	···	···	···	···	0.996	-4.599	A	···	CTIO
73633	132899	K4.5 V (k)	···	···	···	···	···	···	1.081	-4.498	A	···	CTIO
73649	···	K6 V	···	···	···	···	···	···	0.434	···	···	···	CTIO/SO
73754	133295	F9 V CH−0.4	···	6069	4.45	1.0	-0.09	···	0.324	-4.415	A	···	CTIO/SO
73787	133412	K5+ V (k)	···	···	···	···	···	···	0.891	-4.681	A	···	CTIO/SO
73850	133469	F5.5 V	···	6466	4.21	2.0	-0.07	···	0.278	-4.466	A	···	CTIO/SO
74234	134440	K2 V	···	4878	4.84	1.0	-1.30	···	0.132	-5.197	VI	···	SO
74235	134439	K2 V Fe−0.8	···	5121	4.76	1.0	-1.29	···	0.134	-5.188	VI	···	SO
74243	134180	K2.5 V	···	···	···	···	···	···	0.306	-4.822	I	···	CTIO
74255	134220	K2.5 V	···	4906	4.65	1.0	-0.32	···	0.179	-4.972	I	···	CTIO
74268	134331	G0+ V	···	5954	4.42	1.0	-0.01	···	0.170	-4.925	I	···	CTIO
74271	134330	G6 V	···	5552	4.48	1.0	0.03	···	0.177	-4.932	I	···	CTIO
74273	134060	G0 V Fe+0.4	···	5911	4.32	1.0	0.06	···	0.151	-5.042	I	···	CTIO
74389	134664	G1.5 V	···	5782	4.44	1.0	0.04	···	0.175	-4.916	I	···	CTIO/SO
74395	134505	G7 III	···	5004	2.72	1.0	-0.09	K	0.148	···	···	···	CTIO
74500	134987	G6 IV-V	···	5564	4.24	1.0	0.07	···	0.165	-4.979	I	···	SO
74653	134606	G6 IV	···	5502	4.07	1.0	0.24	···	0.154	-5.057	I	···	CTIO
74815	···	K9 V kee	···	···	···	···	···	···	5.870	-4.117	VA	*	SO
74824	135379	A3 Va	···	8641	4.02	2.7	0.17	*	···	···	···	···	CTIO
75181	136352	G2- V	···	5746	4.49	1.0	-0.34	···	0.157	-5.013	I	···	CTIO
75206	136351	F6 III-IV	···	6339	3.71	2.0	0.00	···	0.187	-4.765	I	···	CTIO
75255	136466	G8 V Fe-1.2 CH-1	···	5438	4.39	1.0	-0.43	*	0.151	-5.057	I	···	CTIO
75363	136894	G8+ V	···	5408	4.45	1.0	-0.14	···	0.165	-4.989	I	···	SO
75398	137010	K3.5 V	···	···	···	···	···	···	0.251	-4.955	I	···	CTIO/SO
75416	···	K6 V (k)	···	···	···	···	···	···	1.677	-4.552	A	···	CTIO/SO
75423	···	M2 V	···	···	···	···	···	···	···	···	···	···	CTIO/SO
75542	137303	K4 V	···	···	···	···	···	···	0.432	-4.731	A	···	SO
75753	···	K7 V (k)	···	···	···	···	···	···	1.675	-4.676	A	···	CTIO
75798	···	M0 V k	···	···	···	···	···	···	···	···	···	···	SO
76147	137628	K2.5 IV-V	···	···	···	···	···	···	0.303	-4.853	I	···	CTIO
76200	138549	G8 IV-V	···	5497	4.52	1.0	-0.11	···	0.158	-5.027	I	···	CTIO
76203	138648	G9 IV-V	···	5070	4.31	1.0	-0.08	···	0.173	-4.998	I	···	CTIO/SO
76351	137388	K2 IV	*	5111	4.39	1.0	0.15	···	0.163	-5.062	I	···	CTIO
76362	···	K1 III	*	···	···	···	···	···	···	···	···	···	CTIO
76550	···	K7 Vp	*	···	···	···	···	···	0.586	-4.896	I	···	CTIO/SO
76629	139084	K0 V k	···	5002	4.38	1.0	-0.34	···	0.792	-4.159	VA	*	CTIO
76716	139211	F6 IV	···	6385	4.13	1.9	-0.01	···	0.156	-4.921	I	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
76779	139763	K6 V k	···	···	···	···	···	···	1.728	-4.539	A	···	SO
76793	139696	K2.5 V (k)	···	···	···	···	···	···	0.507	-4.559	A	···	CTIO
76829	139664	F4 V	···	6649	4.14	1.5	-0.18	···	···	···	···	···	CTIO
76990	140011	K2.5 V (k)	···	4800	4.40	1.0	0.14	···	0.459	-4.619	A	···	CTIO
77158	140045	K0 V	···	5279	4.67	1.0	-0.39	···	0.150	-5.084	I	···	CTIO
77310	140408	F6 V	···	6255	4.28	2.0	-0.33	···	0.210	-4.670	A	···	CTIO
77349	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	SO
77358	140901	G7 IV-V	···	5500	4.44	1.0	0.02	···	0.208	-4.802	I	···	SO
77444	140643	K2 IV-V	···	4958	4.40	1.0	0.06	···	0.179	-5.013	I	···	CTIO
77707	141919	K0 V (k)	···	···	···	···	···	···	0.463	-4.488	A	···	SO
77740	141937	G1 V	···	5817	4.39	1.0	0.04	···	0.171	-4.924	I	···	CTIO/SO
77908	142288	K5− V (k)	···	···	···	···	···	···	0.809	-4.755	I	···	SO
77952	141891	F1 V	···	7109	3.90	2.7	-0.18	···	···	···	···	···	CTIO
78089	···	M1.5 V k	···	···	···	···	···	···	···	···	···	···	SO
78169	142415	G1 V	···	5905	4.41	1.0	0.00	···	0.203	-4.770	I	···	CTIO
78170	142709	K5- V	···	···	···	···	···	···	0.374	-4.916	I	···	CTIO
78267	142945	G7 V Fe−2.2 CH−1.5	···	5892	4.49	1.0	-0.72	···	0.186	-4.817	I	···	SO
78330	143114	G0+ V	···	5819	4.40	1.0	-0.41	···	0.175	-4.889	I	···	SO
78343	143098	G5.5 V	···	5601	4.50	1.0	-0.07	···	0.334	-4.480	A	···	SO
78400	143333	F7 V	···	6268	3.99	1.0	0.06	···	0.192	-4.753	I	···	CTIO/SO
78430	143424	K2 V	···	···	···	···	···	···	0.143	-5.156	VI	···	CTIO
78547	143463	F6 V	···	6368	4.28	1.8	-0.10	···	0.207	-4.678	A	···	CTIO
78562	143306	F8 V	···	6320	4.27	1.0	0.09	···	0.177	-4.831	I	···	CTIO
78567	···	M1- V	···	···	···	···	···	···	···	···	···	···	CTIO
78716	143846	G0 V	···	5877	4.51	1.0	-0.33	···	0.197	-4.778	I	···	SO
78734	···	K8 V k	···	···	···	···	···	···	1.802	-4.584	A	···	SO
78738	144087	G8 V+	···	5458	4.43	1.0	0.07	···	0.241	-4.725	A	···	CTIO/SO
78739	144088	K1 V (k)	···	5055	4.38	1.0	-0.06	···	0.292	-4.693	A	···	CTIO/SO
78747	143928	F5 V Fe−0.8	···	6743	4.10	2.0	-0.26	···	0.322	-4.328	A	···	SO
78843	144253	K3 V	···	4579	4.39	1.0	-0.21	···	0.233	-5.016	I	···	SO
78883	144411	K3 V	···	···	···	···	···	···	0.212	-4.991	I	···	CTIO
78914	144197	kA3hA7mF0 III:	···	···	···	···	···	···	···	···	···	···	CTIO
78947	144497	K2.5 V (k)	···	···	···	···	···	···	0.331	-4.735	A	···	SO
78955	144585	G1.5 V	···	5786	4.19	1.0	0.16	···	0.144	-5.112	VI	···	CTIO/SO
78999	144741	K6 V	···	···	···	···	···	···	1.221	-4.543	A	···	SO
79048	144766	F9 V	···	6040	4.38	1.0	-0.07	···	0.170	-4.886	I	···	CTIO/SO
79066	144840	K2.5 V	···	···	···	···	···	···	0.160	-5.120	VI	···	CTIO
79143	144009	G8 IV-V Fe+0.5	···	5585	4.39	1.0	0.17	···	0.186	-4.885	I	···	CTIO
79190	144628	K1 V	···	5011	4.58	1.0	-0.34	···	0.145	-5.128	VI	···	CTIO
79242	142022	G9 IV-V	···	5506	4.18	1.0	0.27	···	0.126	-5.247	VI	···	CTIO
79322	145158	F6 V	···	6423	4.27	1.8	-0.05	···	0.197	-4.708	A	···	CTIO
79377	145518	G0.5 V	···	5874	4.45	1.0	-0.12	···	0.213	-4.732	A	···	CTIO/SO
79419	145444	K5 V	···	···	···	···	···	···	0.975	-4.641	A	···	SO
79431	···	M3 V	···	···	···	···	···	···	···	···	···	···	SO
79524	145809	G2 V Fe-0.7	···	5752	4.12	1.0	-0.30	···	0.149	-5.059	I	···	CTIO/SO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
79537	145417	K3 V Fe-1.7	···	4954	4.84	1.0	-0.90	···	0.131	-5.205	VI	···	CTIO
79576	145598	G8 V Fe-1.6 CH-1.2	···	5570	4.66	1.0	-0.63	···	0.144	-5.113	VI	···	CTIO
79578	145825	G2 V	···	5750	4.45	1.0	0.02	···	0.202	-4.793	I	···	SO
79658	146070	G1 V	···	5819	4.44	1.0	-0.10	···	0.197	-4.785	I	···	SO
79777	146124	G8 IV-V	···	5417	4.48	1.0	0.09	···	0.236	-4.745	A	···	CTIO
79958	146464	K3 V ke	···	4607	4.75	1.0	-0.55	···	1.725	-4.147	VA	*	CTIO
79969	146851	G8 V	···	5488	4.50	1.0	-0.01	···	0.214	-4.791	I	···	SO
79979	146835	F9− V	···	6093	4.65	1.0	-0.03	···	0.212	-4.708	A	···	SO
80000	146686	K2- IIIa	···	···	···	···	···	···	0.185	···	···	···	CTIO
80043	146800	K2.5 V	···	4742	4.73	1.0	-0.52	···	0.168	-5.077	I	···	CTIO
80062	147104	B9.5 Va	*	···	···	···	···	···	···	···	···	···	SO
80221	147127	G8 V Fe-1.6 CH-1	···	5452	4.49	1.0	-0.56	···	0.154	-5.046	I	···	CTIO
80242	···	K0 III	···	···	···	···	···	···	0.168	···	···	···	CTIO/SO
80337	147513	G1 V CH-0.4	···	5831	4.47	1.0	0.00	···	0.236	-4.656	A	···	CTIO
80366	147776	K3− V (k)	···	···	···	···	···	···	0.285	-4.810	I	···	SO
80381	147555A	K6 V	*	···	···	···	···	···	0.850	-4.750	I	···	CTIO
80383	147555B	K3 V (k)	*	···	···	···	···	···	0.553	···	···	···	CTIO
80399	147722	G0 V	···	···	···	···	···	···	0.148	-5.067	I	···	CTIO/SO
80399	147723	F9 IV	···	6000	3.87	2.0	0.05	···	0.225	···	···	···	SO
80683	148303	K2.5 V	···	···	···	···	···	···	0.294	-4.829	I	···	CTIO
80686	147584	F9 V	···	6107	4.44	1.0	0.00	···	0.245	-4.585	A	···	CTIO
80817	···	M2.5 V/M3 V	···	···	···	···	···	···	···	···	···	···	SO
80925	148704	K1 V	···	4980	4.27	1.0	-0.18	···	0.151	-5.101	VI	···	CTIO
	148704B	G9 V	···	···	···	···	···	···	0.194	···	···	···	CTIO
81084	···	K9 V kee	···	···	···	···	···	···	5.984	-4.210	A	···	SO
81237	149435	G9 IV-V	···	5272	4.60	1.0	-0.19	···	0.201	-4.849	I	···	CTIO
81262	149192	K4 V (k)	···	···	···	···	···	···	0.699	-4.608	A	···	CTIO
81294	···	K3.5 V	···	···	···	···	···	···	0.144	-5.173	VI	···	CTIO
81300	149661	K0 V (k)	···	5224	4.48	1.0	0.07	···	0.263	-4.717	A	···	CTIO/SO
81385	149621	K5.5 V (k)	···	···	···	···	···	···	0.411	-5.256	VI	···	SO
81407	149606	K2.5 V	···	4859	4.57	1.0	-0.01	*	0.161	-5.114	VI	···	CTIO
81465	-04 4138	K5+ V	···	···	···	···	···	···	0.765	-4.714	A	···	SO
81478	149499	K1 V (k)	···	···	···	···	···	···	1.259	-3.814	VA	*	CTIO
81520	149612	G5 V Fe-1.2 CH-0.9	···	5796	4.57	1.0	-0.45	···	0.165	-4.954	I	···	CTIO
81592	149813	G4 V	···	···	···	···	···	···	0.260	-4.642	A	···	CTIO
81594	149813B	K2 V (k)	···	···	···	···	···	···	0.501	···	···	···	CTIO
81657	149837	F6 V	···	6354	4.16	2.4	-0.08	···	0.260	-4.511	A	···	CTIO
81746	150248	G3 V comp?	···	5753	4.39	1.0	0.02	···	0.182	-4.875	I	···	CTIO
81827	···	M0 V (k)	···	···	···	···	···	···	···	···	···	···	CTIO
81935	150689	K3+ V (k)	···	4694	4.62	1.0	-0.13	···	0.409	-4.728	A	···	CTIO
82120	151192	G5 V	···	5546	4.61	1.0	-0.44	···	0.151	-5.064	I	···	CTIO
82132	···	K7 V k	···	···	···	···	···	···	2.168	-4.579	···	···	CTIO/SO
82169	-00 3182	K7 V k	···	···	···	···	···	···	1.372	-4.671	A	···	SO
82260	151528	G8 IV-V	···	5329	4.23	1.0	0.11	···	0.162	-5.021	I	···	CTIO/SO
82265	151504	G9 IV-V	···	5316	4.33	1.0	-0.08	···	0.146	-5.108	VI	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
82283	...	M1.5 V (k)	...	...	...	...	...	...	...	...	...	...	SO
82357	...	K6+ V (k)	...	...	...	...	...	...	1.695	-4.595	A	...	CTIO
82369	151769	F6 IV	...	6358	3.54	2.0	-0.06	...	...	...	...	...	CTIO/SO
82370	151692	K4 V (k)	...	...	...	...	...	...	0.488	-4.767	I	...	CTIO
82396	151680	K1 III	...	...	...	...	...	...	0.157	...	...	...	SO
82434	326267	K5- V	...	...	...	...	...	...	0.249	-5.054	I	...	CTIO
82588	152391	G8.5 V (k)	...	5422	4.50	1.0	0.03	*	0.320	-4.553	A	...	CTIO/SO
82621	152311	G2 IV-V	...	5624	4.04	1.0	0.01	...	0.143	-5.125	VI	...	SO
82722	152533	K3 V	...	...	...	...	...	...	0.231	-5.007	I	...	CTIO
82725	...	K0 IV	*	...	...	...	...	...	...	...	...	...	CTIO
82820	...	K7- V (k)	...	...	...	...	...	...	1.571	-5.067	I	...	CTIO
82834	152606	K8 V k	...	...	...	...	...	...	1.684	-4.674	A	...	SO
82930	152388	K0.5 V	...	5133	4.49	1.0	-0.12	...	0.277	-4.770	I	...	CTIO
82930	152388B	K2 V (k)	...	...	...	...	...	...	0.382	...	...	...	CTIO
83101	153026	K4.5 V (k)	...	...	...	...	...	...	0.474	-4.908	I	...	CTIO
83193	152653	K5 V	...	...	...	...	...	...	0.749	-4.674	A	...	CTIO
83196	153363	F3 V	...	6722	4.21	2.0	-0.11	...	...	...	...	...	CTIO/SO
83229	153075	G2 V Fe-0.8 CH-0.5	...	5850	4.35	1.0	-0.48	...	0.162	-4.944	I	...	CTIO
83276	153631	G0 V	...	5873	4.56	1.0	-0.17	...	0.158	-4.991	I	...	SO
83363	153284	K3.5 V (k)	...	...	...	...	...	...	0.426	-4.722	A	...	CTIO
83373	153851	K2 V (k)	...	...	...	...	...	...	0.416	-4.553	A	...	CTIO
83431	153580	F5 V Fe+0.5	...	6501	4.07	2.1	0.11	...	0.241	-4.567	A	...	CTIO
83513	...	F3 IV	*	...	...	...	...	...	...	...	...	...	CTIO
83541	154088	K0 IV-V	...	5374	4.33	1.0	0.25	*	0.173	-4.983	I	...	SO
83797	154387	K4.5 V	...	...	...	...	...	...	0.530	-4.746	A	...	CTIO
83846	154590	K4 V	...	...	...	...	...	...	0.351	-4.840	I	...	CTIO
83990	154577	K2.5 V (k)	*	4850	4.70	1.0	-0.59	...	0.158	-5.080	I	...	CTIO
84012	155125	A2 IV-V	...	8788	3.74	2.0	-0.01	...	...	...	...	...	SO
84051	...	M1- V	...	...	...	...	...	...	...	...	...	...	CTIO
84084	...	F5 V	*	...	...	...	...	...	...	...	...	...	CTIO
84121	155114	G2- V	...	5794	4.47	1.0	-0.11	...	0.182	-4.870	I	...	CTIO
84123	...	M3- V	...	...	...	...	...	...	...	...	...	...	SO
84143	155203	F5 IV	...	6519	3.10	2.3	-0.24	...	0.291	-4.382	A	...	CTIO
84255	155284	G8 V	...	5436	4.66	1.0	-0.54	...	0.181	-4.902	I	...	CTIO
84315	154540	K2 IV-V	...	4929	4.47	1.0	0.06	...	0.241	-4.915	I	...	CTIO
84322	155686	K3- V (k)	...	4777	4.65	1.0	-0.26	...	0.583	-4.522	A	...	CTIO
84405	155885	K1.5 V (k)	...	...	...	...	...	...	0.282	-4.711	A	...	CTIO
84425	155826	F9.5 V	...	6003	4.07	1.0	0.02	...	0.161	-4.949	I	...	CTIO
84478	156026	K5 V (k)	...	...	...	...	...	...	0.821	-4.569	A	...	CTIO/SO
84489	155974	F5.5 V	...	6394	4.14	1.7	-0.14	...	0.188	-4.744	A	...	CTIO
84581	...	F0 IV	...	...	...	...	...	...	...	...	...	...	SO
84586	155555	K2 Vp k	*	5140	3.95	1.0	-0.12	...	1.127	-3.968	VA	*	CTIO
84709	156384	K4- V	...	...	...	...	...	...	0.527	-4.641	A	...	SO
84827	155875	G0 IV-V	...	6001	4.09	1.0	0.13	...	0.188	-4.818	I	...	CTIO
84893	156897	F2 V	...	6704	3.98	2.0	-0.38	...	...	...	...	...	SO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
84924	156643	G1 V	···	5761	4.47	1.0	-0.29	···	0.163	-4.970	I	···	CTIO
84988	155918	G2 V Fe-1.0 CH-0.6	···	5840	4.43	1.0	-0.57	···	0.165	-4.947	I	···	CTIO
85017	157172	G8.5 V	···	5338	4.41	1.0	0.12	···	0.164	-5.014	I	···	CTIO/SO
85019	157060	F9 V:	*	···	···	···	···	···	···	···	···	···	CTIO
85026	-14 4622	K8 V (k)	···	···	···	···	···	···	0.616	···	···	···	SO
85158	157338	F9.5 V	···	6005	4.34	1.0	-0.13	···	0.163	-4.945	I	···	CTIO
85340	157792	kA5hA9mF1 III	···	7440	3.65	2.0	0.25	···	···	···	···	···	SO
85423	157919	F5 III-IV	···	6657	3.36	2.7	-0.02	···	···	···	···	···	CTIO/SO
85425	157830	G6 V	···	5539	4.56	1.0	-0.29	···	0.181	-4.902	I	···	CTIO
85523	···	M2+ V	···	···	···	···	···	···	···	···	···	···	CTIO
85533	323684	K6+ V (k)	···	···	···	···	···	···	1.104	-4.685	A	···	CTIO
85561	158233	K7− V (k)	···	···	···	···	···	···	1.092	-4.690	A	···	SO
85960	158630	G0 V	···	5929	4.47	1.0	-0.19	···	0.168	-4.922	I	···	CTIO
86051	159215	K0 V	···	5208	4.63	1.0	-0.43	···	0.149	-5.096	I	···	CTIO
86057	A	M1.5 V	*	···	···	···	···	···	···	···	···	···	CTIO
86057	B	M3 V	*	···	···	···	···	···	···	···	···	···	CTIO
86263	159876	A9 IIIp (Sr)	···	7388	3.55	2.8	0.07	···	···	···	···	···	CTIO/SO
86289	159656	G1 V	···	5767	4.39	1.0	-0.06	···	0.212	-4.749	A	···	CTIO
86419	160001	G1 V	···	5750	4.39	1.0	-0.18	···	0.190	···	···	···	CTIO
86486	160032	F4 V	*	···	···	···	···	···	···	···	···	···	CTIO
86489	···	K2 III	*	···	···	···	···	···	···	···	···	···	CTIO
86661	160836	K3.5 V (k)	···	···	···	···	···	···	0.776	-4.483	A	···	SO
86736	160915	F5 V	···	6465	4.13	2.0	-0.27	···	0.197	-4.698	A	···	SO
86796	160691	G3 IV-V	···	5748	4.19	1.0	0.18	···	0.146	-5.101	VI	···	CTIO
86991	160859	G1 V	···	5881	4.46	1.0	-0.06	···	0.160	-4.983	I	···	CTIO
87000	···	A1 III-IV	*	···	···	···	···	···	···	···	···	···	CTIO
87091	158866	K2.5 V (k)	···	4740	4.59	1.0	-0.07	···	0.591	-4.502	A	···	CTIO
87116	161612	G8 V	···	5521	4.40	1.0	0.06	···	0.165	-4.999	I	···	SO
87261	161892	K2 III	···	···	···	···	···	···	0.190	···	···	···	CTIO
87292	161296	K2.5 V (k)	···	···	···	···	···	···	0.433	-4.632	A	···	CTIO
87330	162020	K3- V k	···	4702	4.61	1.0	-0.16	···	0.707	-4.392	A	···	CTIO
87453	···	K2 III	···	···	···	···	···	···	0.141	···	···	···	CTIO
87523	162396	F9 V Fe-0.7 CH-0.4	···	6089	4.16	1.0	-0.39	···	0.182	-4.797	I	···	CTIO
87784	···	K2 III	*	···	···	···	···	···	0.190	···	···	···	CTIO
87822	162521	F5 V	···	6521	4.28	2.0	-0.13	···	0.257	-4.494	A	···	CTIO
87925	163573	K6+ V	···	···	···	···	···	···	0.896	-4.792	I	···	CTIO
88033	316899	K0 V Fe−0.5	···	5108	4.68	1.0	-0.52	···	0.149	-5.094	I	···	CTIO/SO
88169	···	K4.5 V	···	···	···	···	···	···	0.263	-5.030	I	···	CTIO
88371	···	K6 V (k)	···	···	···	···	···	···	1.270	-4.640	A	···	CTIO
88414	164604	K3.5 V (k)	···	4586	4.41	1.0	-0.07	···	0.553	-5.187	VI	···	CTIO
88531	164427	G0+ V	···	5876	4.19	1.0	0.00	···	0.154	-5.023	I	···	CTIO
88553	164748	G8 V	···	5460	4.57	1.0	-0.09	···	0.217	-4.772	I	···	CTIO
88635	165135	K1 III	···	···	···	···	···	···	0.148	···	···	···	CTIO/SO
88694	165185	G0 V	···	5906	4.44	1.0	-0.07	···	0.275	-4.545	A	···	CTIO/SO
88908	165814B	B9 IV	*	···	···	···	···	···	···	···	···	···	SO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
88932	165893	K3.5 V (k)	···	···	···	···	···	···	0.557	-4.662	A	···	CTIO
88942	165920	K1 IV	···	···	···	···	···	···	0.141	···	···	···	CTIO
89042	165499	G0 V	···	5976	4.30	1.0	0.02	···	0.165	-4.935	I	···	CTIO
89211	166348	K6 V (k)	···	···	···	···	···	···	1.293	-4.665	A	···	CTIO
89497	167359	K0- V	···	5328	4.58	1.0	-0.10	···	0.177	-4.948	I	···	CTIO
89620	167665	F9 V Fe-0.8 CH-0.4	···	6144	4.28	1.0	-0.24	···	0.167	-4.892	I	···	SO
89766	167981	K3+ V (k)	···	···	···	···	···	···	0.641	-4.508	A	···	CTIO
89805	167425	F9.5 V	···	6046	4.35	1.0	0.06	···	0.244	-4.606	A	···	CTIO
89808	167954	F9 V	···	6250	4.27	1.0	0.09	···	0.166	-4.889	I	···	CTIO
89825	168442	K7 V k	···	···	···	···	···	···	1.717	-4.620	A	···	SO
89844	168443	G6 V	···	5495	4.09	1.0	-0.07	···	0.139	-5.158	VI	···	SO
90147	···	M0.5 V	···	···	···	···	···	···	···	···	···	···	SO
90223	168871	G0- V	···	5997	4.29	1.0	-0.09	···	0.161	-4.955	I	···	CTIO
90246	-06 4756	K5− V k	···	···	···	···	···	···	1.188	-4.506	A	···	SO
90466	···	K6+ V	···	···	···	···	···	···	0.402	-4.964	I	···	CTIO
90485	169830	F7 V	···	6252	3.99	1.0	0.06	···	0.150	-4.992	I	···	SO
90496	169916	K0 IV	···	···	···	···	···	···	0.141	···	···	···	SO
90568	169767	K1 III-IV	···	···	···	···	···	···	0.149	···	···	···	CTIO
90601	···	G1 IV-V	···	···	···	···	···	···	0.188	-4.834	I	···	SO
90611	170209	K5− V (k)	···	···	···	···	···	···	0.725	-4.771	I	···	SO
90706	A	K6.5 V (k)	*	···	···	···	···	···	0.752	···	···	···	CTIO
90706	B	K8 V	*	···	···	···	···	···	0.808	···	···	···	CTIO
90724	170368	F5 III-IVp kF3 SrCrEu:	*	···	···	···	···	···	···	···	···	···	CTIO
	170368B	G5 III	*	···	···	···	···	···	···	···	···	···	CTIO
90790	170657	K2 V	···	···	···	···	···	···	0.263	-4.759	I	···	SO
90936	170773	F5 V	···	6606	4.26	1.8	-0.04	···	0.297	-4.389	A	···	CTIO
90945	170573	K4.5 V (k)	···	···	···	···	···	···	0.492	-4.779	I	···	CTIO
91154	170915	K4.5 V (k)	···	···	···	···	···	···	0.846	-4.605	A	···	CTIO
91287	171665	G4 V	···	5665	4.46	1.0	-0.04	···	0.150	-5.073	I	···	CTIO
91438	172051	G6 V	···	5601	4.53	1.0	-0.22	···	0.173	-4.928	I	···	SO
91638	171825	K2.5 V (k)	···	4800	4.60	1.0	-0.11	···	0.492	-4.600	A	···	CTIO
91700	172513	G8 V	···	5465	4.47	1.0	-0.10	···	0.165	-5.001	I	···	CTIO
91862	···	K5 V	···	···	···	···	···	···	0.197	-5.097	I	···	CTIO
92024	172555	A7 V	···	7846	4.18	2.2	0.09	*	···	···	···	···	CTIO
92250	173872	K2 V	···	···	···	···	···	···	0.173	-5.024	I	···	SO
92444	···	K8 V k	···	···	···	···	···	···	1.758	-4.769	I	···	SO
92742	174545	K2 IV	···	5250	4.29	1.0	0.40	*	0.175	-5.012	I	···	CTIO
92755	174564	K4+ V (k)	···	···	···	···	···	···	0.881	-4.555	A	···	CTIO
92756	···	K6+ V (k)	···	···	···	···	···	···	1.594	-4.526	A	···	CTIO
92759	···	K2.5 V (k)	···	···	···	···	···	···	0.518	-4.535	A	···	CTIO
92798	···	K5 V	···	···	···	···	···	···	0.344	-4.741	A	···	CTIO
92858	175073	K1 V	···	5017	4.54	1.0	-0.25	···	0.210	-4.889	I	···	CTIO
92882	175317	F5 V	···	6552	4.11	2.0	-0.04	···	0.217	-4.612	A	···	CTIO/SO
93072	···	K9 V (k)	···	···	···	···	···	···	1.397	-4.842	I	···	SO
93174	175813	F4 V Fe-0.8 comp	*	6647	3.50	2.1	-0.30	···	···	···	···	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
93398	176535	K3.5 V (k)	...	...	...	...	...	...	0.430	-4.748	A	...	CTIO
93449	...	B5 IIIpe	*	...	...	...	...	...	...	...	...	...	CTIO
93506	176687	A2.5 Va	...	8799	3.90	2.0	0.11	...	...	...	...	...	SO
93540	176986	K2.5 V	...	...	...	...	...	...	0.240	-4.885	I	...	SO
93825	177474	F8 V	...	6202	4.10	1.0	-0.09	...	0.165	-4.890	I	...	CTIO/SO
93827	177758	G2 V Fe-1.0 CH-0.6	...	5917	4.29	1.0	-0.57	...	0.176	-4.859	I	...	CTIO/SO
93858	177565	G6 V	...	5624	4.38	1.0	0.09	...	0.167	-4.973	I	...	CTIO/SO
93864	177716	K1 III	...	...	...	...	...	...	0.184	...	...	...	CTIO/SO
93966	178428	G4 V CN+0.5	...	5558	4.28	1.0	-0.01	...	0.145	-5.110	VI	...	CTIO
94020	178076	G8.5 V (k)	...	5408	4.44	1.0	0.07	...	0.358	-4.525	A	...	CTIO/SO
94020	178076B	K5.5 V (k)	...	...	...	...	...	...	1.367	...	...	...	SO
94050	177996	K1.5 V (k)	...	4998	4.27	1.0	-0.02	...	0.580	-4.355	A	...	CTIO
94114	178253	A2 Va	...	8950	3.79	2.0	-0.32	...	...	...	...	...	SO
94150	177389	K0 IV	...	...	...	...	...	...	0.125	...	...	...	CTIO
94154	177409	G1 V CH-0.4	...	5894	4.46	1.0	-0.03	...	0.171	-4.902	I	...	CTIO
94225	178445	K6.5 V	...	...	...	...	...	...	0.981	-4.816	I	...	CTIO
94595	...	M0.5 V k	...	...	...	...	...	...	...	...	...	...	CTIO/SO
94645	179949	F8.5 V	...	6124	3.86	1.0	0.11	...	0.190	-4.782	I	...	SO
94739	179930	M0 V (k)	...	...	...	...	...	...	2.123	-4.646	A	...	CTIO
94757	180409	F9 V	...	6002	4.23	1.0	-0.27	...	0.172	-4.883	I	...	SO
95106	181199	G0.5 V	...	5616	4.47	1.0	-0.44	...	0.164	...	...	...	CTIO
95110	181199B	K2 V	...	...	...	...	...	...	0.226	-4.700	A	...	CTIO
95149	181321	G1 V	...	5810	4.49	1.0	-0.08	...	0.374	-4.372	A	...	CTIO/SO
95168	181577	A9 IV	...	7562	3.59	2.0	0.16	...	...	...	...	...	CTIO/SO
95326	...	K2.5 V	...	...	...	...	...	...	0.242	...	...	...	CTIO
95417	...	K8 V (k)	...	...	...	...	...	...	1.302	-4.801	I	...	SO
95467	181433	K3 III-IV	...	4900	4.49	1.0	0.50	...	0.163	-5.155	VI	...	CTIO
95722	183063	G8 V	...	5420	4.25	1.0	0.06	...	0.197	-4.857	I	...	CTIO/SO
95849	183216	F8.5 V Fe+0.4	...	6000	4.36	1.0	0.11	...	0.226	-4.674	A	...	CTIO/SO
95932	183028	F5 V	...	6542	4.27	1.9	-0.07	...	0.205	-4.654	A	...	CTIO
96085	183870	K2.5 V (k)	...	4896	4.50	1.0	-0.15	...	0.488	-4.512	A	...	SO
96113	183783	K4+ V	...	...	...	...	...	...	0.324	-4.935	I	...	CTIO/SO
96124	183877	G8 V Fe−1 CH−0.5	...	5553	4.47	1.0	-0.32	...	0.180	-4.898	I	...	SO
96334	183414	G1.5 V	...	5788	4.57	1.0	0.06	...	0.384	-4.371	A	...	CTIO
96370	184509	F8.5 V	...	6076	4.35	1.0	-0.20	...	0.171	-4.880	I	...	CTIO/SO
96536	184985	F6.5 V	...	6320	3.91	2.0	-0.07	...	0.158	-4.920	I	...	CTIO/SO
96635	185181	K1 IV k	*	...	...	...	...	...	0.853	-4.185	VA	*	CTIO/SO
96643	185342B	F2 V	*	...	...	...	...	...	...	...	...	...	CTIO/SO
96646	185342A	A0.5 Vb(n)	*	...	...	...	...	...	...	...	...	...	SO
	185342C	K1 III	...	...	...	...	...	...	...	...	...	...	SO
96710	...	M1 V	...	...	...	...	...	...	...	...	...	...	SO
96861	185283	K3 V	...	...	...	...	...	...	0.197	-5.097	I	...	CTIO
96901	186427	G3 V	...	5728	4.33	1.0	0.05	...	0.154	-5.041	I	...	SO
97063	186185	F6 IV-V	...	6470	3.93	2.3	-0.02	...	0.291	-4.420	A	...	CTIO/SO
97156	186061	K2.5 V (k)	...	4901	4.51	1.0	0.05	...	0.219	-4.985	I	...	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
97358	186803	G6 V	···	5586	4.48	1.0	-0.07	···	0.238	-4.694	A	···	CTIO/SO
97370	186651	F9.5 V	···	6085	4.31	1.0	0.05	···	0.170	-4.888	I	···	CTIO
97405	186853	G5 V	···	5693	4.46	1.0	-0.01	···	0.175	-4.920	I	···	CTIO/SO
97650	187532	F5 V Fe−1 CH−0.7	···	6812	4.16	2.0	-0.18	···	0.365	-4.249	A	···	SO
97805	187760	K5 V k	···	···	···	···	···	···	1.074	-4.517	A	···	SO
97944	188088	K2 IV (k)	···	4774	4.24	1.0	0.29	···	0.563	-4.582	A	···	SO
98036	188512	G9.5 IV	···	5057	3.35	1.0	-0.25	···	0.125	-5.238	VI	···	CTIO
98066	188376	G5 IV	···	5425	3.56	1.0	-0.08	···	0.132	-5.209	VI	···	CTIO/SO
98106	187456	K3+ V	···	···	···	···	···	···	0.241	-5.026	I	···	CTIO
98130	188474	K3.5 V (k)	···	···	···	···	···	···	0.279	-4.905	I	···	SO
98204	188807	K7 V	···	···	···	···	···	···	1.030	-4.795	I	···	SO
98316	188559	K3+ V	···	···	···	···	···	···	0.246	-5.003	I	···	CTIO
98413	189242	K2+ V	···	···	···	···	···	···	0.271	-4.802	I	···	CTIO
98444	188986	F4 V	···	6699	4.39	1.9	-0.12	···	···	···	···	···	CTIO
98470	189245	F8.5 V Fe−0.6 CH−0.5	···	6333	4.31	1.0	-0.09	···	0.470	-4.164	VA	*	SO
98495	188228	A0 Va	···	9896	4.15	2.0	-0.04	···	···	···	···	···	CTIO
98589	189625	G2- V	···	5752	4.39	1.0	0.01	···	0.186	-4.859	I	···	SO
98621	188748	G4 V	···	5680	4.53	1.0	-0.03	···	0.158	-5.013	I	···	CTIO
98679	189484	K5- V	···	···	···	···	···	···	0.361	-4.932	I	···	CTIO
98681	···	K1 IV	···	···	···	···	···	···	···	···	···	···	CTIO
98698	190007	K4 V (k)	···	···	···	···	···	···	0.455	-4.845	I	···	CTIO
98764	···	K2.5 V (k)	···	···	···	···	···	···	0.319	-4.754	I	···	CTIO
98767	190360	G7 IV-V	···	5497	4.31	1.0	0.11	···	0.154	-5.059	I	···	CTIO/SO
98813	189931	G1 V	···	5867	4.42	1.0	0.05	···	0.190	-4.816	I	···	CTIO
98819	190406	G0 V	···	5913	4.41	1.0	0.01	···	0.190	-4.810	I	···	CTIO/SO
98959	189567	G2 V	···	5790	4.44	1.0	-0.07	···	0.186	-4.857	I	···	CTIO
99137	190422	F9 V CH-0.4	···	6179	4.42	1.0	-0.08	···	0.291	-4.458	A	···	CTIO
99240	190248	G8 IV	···	5512	4.23	1.0	0.13	···	0.149	-5.092	I	···	CTIO
99322	191285	K5- V	···	···	···	···	···	···	0.668	-4.692	A	···	CTIO
99344	190954	G7 V	···	5504	4.56	1.0	-0.37	···	0.153	-5.059	I	···	CTIO
99385	191391	K6 V k	···	···	···	···	···	···	1.585	-4.576	A	···	SO
99461	191408	K2.5 V	···	4857	4.57	1.0	-0.57	···	0.156	-5.079	I	···	SO
99550	···	M0 V k	···	···	···	···	···	···	1.820	-4.699	A	···	SO
99572	191862	F7 V Fe−0.5	···	6397	4.21	1.0	-0.11	···	0.182	-4.772	I	···	SO
99634	189310	K2 V	···	5042	4.46	1.0	-0.04	···	0.271	-4.781	I	···	CTIO
99651	192031	K2 V Fe-1.8 CH-1.2	···	5387	4.47	1.0	-0.74	···	0.150	-5.081	I	···	SO
99825	192310	K2+ V	···	5015	4.47	1.0	0.02	···	0.165	-5.048	I	···	SO
100047	···	K8 V	···	···	···	···	···	···	0.946	-4.801	I	···	CTIO
100064	192947	G8.5 III-IV	···	5028	2.80	1.0	-0.05	K	0.125	···	···	···	SO
100184	192886	F6 IV-V	···	6451	4.33	1.9	0.02	···	0.179	-4.782	I	···	CTIO
100223	192961	K5.5 V	···	···	···	···	···	···	0.507	-4.861	I	···	CTIO
100280	192117	G8 IV-V	···	5435	4.51	1.0	0.03	···	0.205	-4.828	I	···	CTIO
100412	193307	F9 V	···	6027	4.18	1.0	-0.26	···	0.154	-4.980	I	···	CTIO
100455	193406	K4 V (k)	···	···	···	···	···	···	0.645	-4.628	A	···	CTIO
100492	193844	K2 V	···	···	···	···	···	···	0.235	-4.848	I	···	SO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
100852	194433	K2 III	···	···	···	···	···	···	···	···	···	···	CTIO
100925	194640	G8 V	···	5500	4.44	1.0	-0.01	···	0.178	-4.924	I	···	SO
101027	194943	F2 V	···	6771	3.53	2.0	-0.30	···	···	···	···	···	SO
101317	195266	K7- V (k)	···	···	···	···	···	···	1.789	···	···	···	CTIO
101432	195521	G1.5 V	···	5678	4.11	1.0	-0.06	···	0.391	-4.375	A	···	CTIO
101507	195838	F9 V Fe-0.6 CH-0.3	···	6057	3.73	1.0	-0.16	···	0.152	-4.987	I	···	SO
101549	···	K2 V (k)	···	···	···	···	···	···	0.433	-4.606	A	···	CTIO
101612	195627	F0 V	···	7201	3.90	2.5	-0.12	···	···	···	···	···	CTIO
101726	196141	G2 V	···	5746	4.59	1.0	-0.06	···	0.297	-4.523	A	···	CTIO
101772	196171	K0 III-IV	···	···	···	···	···	···	0.158	···	···	···	CTIO
101846	···	K5.5 V (k)	···	···	···	···	···	···	0.455	-4.861	I	···	CTIO
101905	196390	G1.5 V	···	5997	4.40	1.0	0.18	···	0.177	-4.894	I	···	CTIO
101983	196378	G0 V Fe-0.8 CH-0.5	···	6047	3.98	1.0	-0.41	···	0.177	-4.837	I	···	CTIO
101997	196761	G8 V	···	5489	4.54	1.0	-0.26	···	0.173	-4.948	I	···	SO
102119	196998	K5+ V ke	···	···	···	···	···	···	3.790	-3.902	VA	*	SO
102125	196067	G0 V	*	5969	3.99	1.0	0.16	···	0.141	-5.121	VI	···	CTIO
102128	196068	G1 V	*	6000	4.31	1.0	0.22	*	0.147	-5.081	I	···	CTIO
102186	196877	K7 V	···	···	···	···	···	···	0.834	-4.887	I	···	CTIO
102264	197214	G6 V	···	5593	4.50	1.0	-0.24	···	0.178	-4.903	I	···	SO
102333	197157	A9 IV	*	7448	4.23	2.0	0.40	*	···	···	···	···	CTIO
102485	197692	F5 V	···	6633	4.22	2.0	-0.08	···	0.290	-4.404	A	···	SO
102486	197711	K1 IV-V	···	4746	4.27	1.0	-0.25	···	0.177	-5.026	I	···	SO
102495	···	K6.5 V	···	···	···	···	···	···	1.139	-4.720	A	···	CTIO
102521	197818	G1 V	···	5831	4.50	1.0	-0.28	···	0.167	-4.942	I	···	SO
102580	197823	K0 IV-V	···	5261	4.34	1.0	0.02	···	0.214	-4.810	I	···	CTIO
102664	198075	G0.5 V	···	5830	4.57	1.0	-0.36	···	0.162	-4.969	I	···	SO
102964	···	K3 V (k)	···	···	···	···	···	···	0.534	-4.591	A	···	CTIO
103019	···	K6.5 V (k)	···	···	···	···	···	···	1.359	-4.691	A	···	CTIO
103039	···	M4 V	···	···	···	···	···	···	···	···	···	···	CTIO
103389	199260	F6 V	···	6241	4.32	1.0	-0.26	···	0.313	-4.402	A	···	SO
103458	199288	G2 V Fe-1.0	···	5852	4.46	1.0	-0.54	···	0.181	-4.847	I	···	CTIO
103576	···	K7 V (k)	···	···	···	···	···	···	1.787	-4.648	A	···	CTIO
103581	199704	K2 IV	···	···	···	···	···	···	0.204	-4.981	I	···	SO
103636	···	M0 V	···	···	···	···	···	···	1.887	-4.711	A	···	CTIO
103654	199190	G1 IV-V	···	5844	4.20	1.0	0.05	···	0.154	-5.029	I	···	CTIO
103673	199623	F5.5 V	···	6342	4.07	2.0	-0.36	···	0.207	-4.666	A	···	CTIO
103699	199976	G9 V	···	5299	4.43	1.0	-0.30	···	0.367	-4.475	A	···	CTIO
103768	199981	K6 V (k)	···	···	···	···	···	···	1.197	-4.601	A	···	CTIO
103787	200083	K3.5 V	···	···	···	···	···	···	0.288	-4.930	I	···	CTIO
103820	199933	K3.5 V (k)	···	···	···	···	···	···	0.680	-4.542	A	···	CTIO
103832	···	K5 V	···	···	···	···	···	···	0.564	-4.799	I	···	CTIO
103882	200163	F5 V	···	6589	3.94	2.0	-0.13	···	0.291	-4.395	A	···	CTIO
104108	200349	K3+ V (k)	···	4665	4.63	1.0	-0.32	···	0.325	-4.861	I	···	CTIO
104239	200968	G9.5 V (k)	···	···	···	···	···	···	0.350	-4.650	A	···	SO
104299	200505	K2 V (k)	···	5079	4.62	1.0	-0.32	···	0.254	-4.761	I	···	CTIO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
104436	199509	G1 V	···	5794	4.54	1.0	-0.34	···	0.170	-4.925	I	···	CTIO
104440	200525	F9.5 V	···	6001	4.37	1.0	0.04	···	0.226	-4.667	A	···	CTIO
104526	201247A	G5 V	···	···	···	···	···	···	0.368	-4.358	A	···	CTIO
104526	201247B	G7 V (k)	···	···	···	···	···	···	0.324	-4.435	A	···	CTIO
104680	201647	F5 V	···	6538	4.21	1.9	-0.07	···	0.229	-4.575	A	···	CTIO
104738	201772	F6 V Fe-0.9 CH-0.5	···	6483	3.97	1.0	-0.18	···	0.219	-4.612	A	···	CTIO
104809	201989	G5 V	···	5579	4.43	1.0	-0.07	···	0.316	-4.513	A	···	SO
105184	202628	G1.5 V	···	5777	4.46	1.0	-0.08	···	0.203	-4.782	I	···	CTIO
105204	202819	K4+ V (k)	···	···	···	···	···	···	0.307	-4.988	I	···	SO
105214	202457	G2 V	···	5664	4.21	1.0	0.01	···	0.165	-4.982	I	···	CTIO
105312	202940	G7 V	···	5354	4.32	1.0	-0.50	···	0.167	-4.988	I	···	SO
105319	202730	A5 V(n)	···	8114	4.12	2.0	0.10	···	···	···	···	···	CTIO
105336	···	M1.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
105341	203040	K6.5 V k	···	···	···	···	···	···	1.938	-4.552	A	···	CTIO
105384	203019	G5 V	···	5696	4.46	1.0	0.09	···	0.361	-4.436	A	···	CTIO
105441	202746	K2.5 V k	···	4786	4.56	1.0	-0.32	*	0.981	-4.318	A	···	CTIO
105606	203432	G8 IV	···	5498	4.17	1.0	0.16	···	0.175	-4.948	I	···	CTIO
105612	202732	G5 V	···	5566	4.51	1.0	-0.14	···	0.274	-4.602	A	···	CTIO
105675	203413	K3 V (k)	···	···	···	···	···	···	0.515	-4.682	A	···	CTIO
105712	203244	G8 V	···	5445	4.50	1.0	-0.14	···	0.306	-4.555	A	···	CTIO
105858	203608	F9 V Fe-1.4 CH-0.7	···	6205	4.42	1.0	-0.60	···	0.265	-4.491	A	···	CTIO
105905	203850	K2.5 V	···	4746	4.69	1.0	-0.68	···	0.177	-5.033	I	···	CTIO
105911	203985	K2 III-IV	···	···	···	···	···	···	0.160	···	···	···	CTIO
106007	204363	F9 V Fe-1.3 CH-0.7	···	6251	4.35	1.0	-0.41	···	0.210	-4.663	A	···	SO
106147	204587	K7 V (k)	···	···	···	···	···	···	0.747	-4.839	I	···	SO
106213	204385	G0 V CH-0.3	···	5999	4.28	1.0	0.04	···	0.166	-4.931	I	···	CTIO
106350	···	M0+ V	···	···	···	···	···	···	···	···	···	···	CTIO
106353	204941	K2 V	···	···	···	···	···	···	0.155	-5.087	I	···	CTIO
106391	···	K5 V	···	···	···	···	···	···	0.205	-5.076	I	···	CTIO
106559	205289	F5 V Fe-0.8 CH-0.4	···	6633	4.14	2.0	-0.30	···	0.307	-4.363	A	···	SO
106696	205390	K1.5 V	···	4971	4.60	1.0	-0.22	···	0.303	-4.702	A	···	CTIO
106704	205310	K5- V (k)	···	···	···	···	···	···	0.788	-5.004	I	···	CTIO
106913	205905	G1 V	···	5795	4.43	1.0	-0.08	···	0.253	-4.609	A	···	SO
107022	205536	G9 V	···	5325	4.41	1.0	-0.10	···	0.150	-5.084	I	···	CTIO
107089	205478	K1 III	···	···	···	···	···	···	0.150	···	···	···	CTIO
107095	206301	G1 IV	···	5634	3.76	1.0	-0.10	···	0.233	-4.697	A	···	SO
107133	···	K6+ V (k)	···	···	···	···	···	···	1.274	-4.655	A	···	CTIO
107143	206276	K3.5 V	···	···	···	···	···	···	0.205	-5.089	I	···	CTIO
107152	206163	G8 IV-V	···	5415	4.51	1.0	0.01	···	0.207	-4.832	I	···	CTIO
107225	206395	F8.5 IV-V	···	6373	4.25	1.0	0.32	···	0.144	-5.066	I	···	CTIO
107350	206860	G0 V CH−0.5	···	5954	4.43	1.0	-0.10	···	0.339	-4.400	A	···	CTIO/SO
107385	206630	K3 V	···	4762	4.67	1.0	-0.37	···	0.212	-4.970	I	···	CTIO
107412	206893	F5 V	···	6571	4.16	2.0	-0.23	···	0.266	-4.466	A	···	SO
107427	···	F5.5 V	*	···	···	···	···	···	0.190	-4.713	A	···	CTIO
107522	206804	K6.5 V k	···	···	···	···	···	···	1.270	-4.704	A	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
107556	207098	kA5hF0mF2 III	···	7301	3.66	2.0	-0.13	···	···	···	···	···	SO
107620	207043	G5 V	···	5753	4.43	1.0	0.09	···	0.201	-4.801	I	···	CTIO
107625	207144	K3 V	···	···	···	···	···	···	0.204	-4.990	I	···	SO
107649	207129	G0 V Fe+0.4	···	5928	4.40	1.0	0.04	···	0.153	-5.020	I	···	CTIO
107758	···	K7- V (k)	···	···	···	···	···	···	1.436	-4.728	A	···	CTIO
107805	207583	G8- V	···	5505	4.47	1.0	-0.06	···	0.313	-4.549	A	···	SO
107877	207692	F6- V	···	6290	4.15	2.0	-0.33	···	0.186	-4.762	I	···	SO
107936	207699	K3 V	···	···	···	···	···	···	0.263	-4.908	I	···	CTIO
108020	···	K6.5 V	···	···	···	···	···	···	0.402	-4.980	I	···	CTIO
108036	207958	F2 V	···	6799	4.09	2.0	-0.18	···	···	···	···	···	SO
108065	207970	G7 V	···	5502	4.41	1.0	0.01	···	0.156	-5.041	I	···	SO
108158	207700	G4 V	···	5635	4.27	1.0	0.05	···	0.146	-5.101	VI	···	CTIO
108162	207496	K2.5 V (k)	···	···	···	···	···	···	0.485	-4.621	A	···	CTIO
	207496B	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
108216	···	K4.5 V	···	···	···	···	···	···	0.199	-5.104	VI	···	CTIO
108241	208272	G9.5 V (k)	···	5111	4.51	1.0	-0.14	···	0.347	-4.591	A	···	SO
108416	208573	K3- V	···	4800	4.57	1.0	0.08	*	0.341	-4.825	I	···	CTIO
108468	208704	G1 V	···	5753	4.35	1.0	-0.36	···	0.165	-4.961	I	···	SO
108525	208880	G9 V	···	5340	4.48	1.0	-0.14	···	0.186	-4.908	I	···	CTIO
108567	···	K5.5 V	···	···	···	···	···	···	0.904	-4.658	A	···	CTIO
108736	208998	G0 V	···	6002	4.35	1.0	-0.24	···	0.151	-5.015	I	···	CTIO
108809	209253	F6.5 V	···	6250	4.19	2.0	-0.20	···	0.325	-4.374	A	···	SO
108870	209100	K4 V (k)	···	···	···	···	···	···	0.354	-4.851	I	···	CTIO
109110	209779	G1 V	···	5751	4.45	1.0	0.05	···	0.312	-4.506	A	···	CTIO
109166	209742	K2 V	···	5052	4.49	1.0	-0.04	···	0.153	-5.092	I	···	CTIO
109245	209635	F8 V	···	6132	4.42	1.0	-0.27	···	0.171	-4.866	I	···	CTIO
109268	209952	B6 V	···	13201	3.84	2.0	0.00	···	···	···	···	···	CTIO
109285	210049	A1.5 IVn	···	8907	3.64	2.0	-0.62	···	···	···	···	···	SO
109421	···	K6 V (k)	···	···	···	···	···	···	1.170	-4.480	A	···	CTIO
109422	210302	F6 V	···	6454	4.11	2.0	0.00	···	0.173	-4.823	I	···	SO
109427	210418	A1 Va	···	8569	3.86	2.0	-0.38	*	···	···	···	···	CTIO
109670	···	G5 V Fe-1.2 CH-1	*	···	···	···	···	···	0.161	-4.991	I	···	CTIO
109816	210975	K4.5 V	···	···	···	···	···	···	0.186	-5.160	VI	···	CTIO
109821	210918	G2 V	···	5761	4.34	1.0	-0.03	···	0.143	-5.121	VI	···	CTIO
109822	211038	G9.5 IV-V	···	4935	3.66	1.0	-0.56	···	0.126	-5.234	VI	···	SO
110066	211369	K2.5 V (k)	···	···	···	···	···	···	0.398	-4.659	A	···	CTIO
110078	210853	F0 IIp	···	7295	4.11	4.0	0.27	···	···	···	···	···	CTIO
110109	211415	G0 V	···	5837	4.45	1.0	-0.31	···	0.170	-4.918	I	···	CTIO
110156	211583	K4 V (k)	···	···	···	···	···	···	0.402	-4.900	I	···	CTIO
110245	211723	K5.5 V (k)	···	···	···	···	···	···	1.274	-4.574	A	···	CTIO
110258	···	K6.5 V (k)	···	···	···	···	···	···	1.448	-4.600	A	···	CTIO
110341	211976	F5 V	···	6579	4.24	1.4	0.02	···	0.207	-4.646	A	···	CTIO
110443	211970	K7 V (k)	···	···	···	···	···	···	1.425	-4.670	A	···	CTIO
110468	212038	K2.5 V	···	4937	4.61	1.0	-0.67	*	0.132	-5.194	VI	···	CTIO
110483	212146	G8 V	···	5301	4.44	1.0	-0.44	···	0.165	-4.999	I	···	SO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	T_{eff}	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\mathrm{HK}})$	AC	N3	Obs
110534	···	M1- V (k)	···	···	···	···	···	···	···	···	···	···	CTIO
110618	211998	G9 V Fe-3.1 CH-1.5	···	5486	3.73	1.0	-0.82	···	0.130	-5.243	VI	···	CTIO
110649	212330	G2 IV-V	···	5744	4.09	1.0	0.08	···	0.138	-5.157	VI	···	CTIO
110655	···	K6+ V (k)	···	···	···	···	···	···	1.529	-4.608	A	···	CTIO
110712	212168A	G0 V	*	5987	4.33	1.0	0.03	···	0.158	-4.981	I	···	CTIO
110714	···	K6.5 V (k)	···	···	···	···	···	···	1.332	-4.699	A	···	CTIO
110719	212168B	G0- V	*	···	···	···	···	···	0.153	-5.320	VI	···	CTIO
110750	212658	K4.5 V k	···	···	···	···	···	···	1.390	-4.372	A	···	SO
110778	212697	G5 V Fe-0.8 CH-1	···	···	···	···	···	···	0.325	···	···	···	SO
110778	212698	G1 V	···	···	···	···	···	···	0.328	-4.442	A	···	SO
110812	212580	K1 V (k)	···	5050	4.54	1.0	-0.05	···	0.236	-4.828	I	···	CTIO
110843	212708	G6 IV	···	5526	4.32	1.0	0.06	···	0.150	-5.080	I	···	CTIO
110922	A	M3- V	*	···	···	···	···	···	···	···	···	···	CTIO
110922	B	M3 V	*	···	···	···	···	···	···	···	···	···	CTIO
110996	213042	K4- V	···	4580	3.81	1.0	0.31	···	0.282	-4.983	I	···	SO
111078	···	K6.5 V	···	···	···	···	···	···	0.776	-4.886	I	···	CTIO
111288	···	K8 V k	···	···	···	···	···	···	1.633	-4.672	A	···	SO
111349	213628	G8 V	···	5501	4.49	1.0	-0.08	···	0.177	-4.932	I	···	SO
111391	···	M2+ V k	···	···	···	···	···	···	···	···	···	···	CTIO
111449	213845	F5 V	···	6597	4.11	2.0	-0.04	···	0.238	-4.547	A	···	SO
111565	213941	G8 V Fe-1.3	···	5628	4.39	1.0	-0.13	···	0.155	-5.031	I	···	CTIO
111648	214067	G9 V	···	5322	4.57	1.0	-0.36	···	0.143	-5.129	VI	···	CTIO
111746	214385	G8 V Fe-1.2	···	5810	4.49	1.0	-0.02	···	0.172	-4.925	I	···	SO
111766	···	M3.5 V ke	···	···	···	···	···	···	···	···	···	···	CTIO
111870	214615A	G9 V (k)	*	5382	4.49	1.0	-0.09	···	0.340	-4.553	A	···	SO
111870	214615B	G9 V (k)	*	···	···	···	···	···	0.340	-4.553	A	···	SO
111880	···	K7 V (k)	···	···	···	···	···	···	1.548	-4.695	A	···	CTIO
111958	A	K6- V (k)	···	···	···	···	···	···	1.327	···	···	···	CTIO
111958	B	M0 V	···	···	···	···	···	···	···	···	···	···	CTIO
111960	214749	K4.5 V k	···	···	···	···	···	···	1.192	-4.439	A	···	SO
111965	214810	G9 V Fe-0.7	···	6151	4.19	1.0	-0.22	···	0.254	-4.542	A	···	CTIO
111978	214759	K0 IV-V	···	5498	4.13	1.0	0.24	···	0.177	-4.961	I	···	SO
111983	214731	K5- V	···	···	···	···	···	···	0.217	-5.051	I	···	CTIO
112069	···	K6 V (k)	···	···	···	···	···	···	0.593	···	···	···	SO
112117	214953	F9.5 V	···	6104	4.27	1.0	0.02	···	0.155	-4.988	I	···	CTIO
112414	215456	G0.5 V	···	5752	4.12	1.0	-0.16	···	0.145	-5.100	I	···	CTIO
112491	215641	G8 V (k)	···	5476	4.49	1.0	0.06	···	0.328	-4.530	A	···	SO
112504	215696	G1 V	···	5530	4.30	1.0	-0.30	···	0.170	-4.950	I	···	SO
112515	215657	G0 V	···	6003	4.43	1.0	0.10	···	0.322	-4.439	A	···	CTIO
112524	215722	K4 V (k)	···	···	···	···	···	···	0.828	-4.647	A	···	SO
112581	215768	G0 V CH-0.3	···	5999	4.39	1.0	-0.04	···	0.291	-4.494	A	···	CTIO
112623	215789	A2 IVn SB2	···	8137	3.70	2.0	-0.16	···	···	···	···	···	CTIO
112637	215864	K3 V	···	···	···	···	···	···	0.257	-4.919	I	···	CTIO
112763	216054	G9 V	···	5398	4.49	1.0	-0.13	···	0.150	-5.081	I	···	CTIO
112816	216013	G8 V	···	5323	4.53	1.0	-0.25	···	0.357	-4.482	A	···	CTIO

TABLE 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
112843	···	K8 V k	···	···	···	···	···	···	1.999	-4.614	A	···	CTIO
112974	216402	F8 V	···	6195	3.81	1.0	0.07	···	0.162	-4.908	I	···	SO
113044	216435	G0 V	···	5996	4.03	1.0	0.18	···	0.141	-5.130	VI	···	CTIO
113137	216437	G1 V Fe+0.3	···	5894	4.17	1.0	0.23	···	0.143	-5.122	VI	···	CTIO
113221	···	M1.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
113229	···	M3- V	···	···	···	···	···	···	···	···	···	···	CTIO
113238	216770	G9 V CN+1	···	5313	4.35	1.0	0.13	···	0.188	-4.933	I	···	SO
113283	216803	K4+ V k	···	···	···	···	···	···	0.964	-4.467	A	···	SO
113357	217014	G2 V+	···	5750	4.35	1.0	0.12	···	0.153	-5.050	I	···	CTIO
113368	216956	A4 V	···	8399	4.14	2.0	0.10	*	···	···	···	···	SO
113409	217065	K6 V k	···	···	···	···	···	···	1.519	-4.481	A	···	SO
113423	217025	K1 IV-V	···	5246	4.45	1.0	0.11	···	0.322	-4.640	A	···	CTIO
113445	217166	G5 V Fe-0.8	···	5738	4.12	1.0	-0.10	···	0.171	-4.926	I	···	CTIO
113576	217357	K7+ V k	···	···	···	···	···	···	1.809	-4.643	A	···	SO
113579	217343	G1.5 V (k)	···	5749	4.50	1.0	0.00	···	0.425	-4.321	A	···	SO
113597	217379	K6.5 V ke	···	···	···	···	···	···	3.188	-4.336	A	···	CTIO
113638	217364	K1 III Fe-1.2 CN-0.5	···	···	···	···	···	···	0.147	···	···	···	CTIO
113697	217486	K3+ V	···	···	···	···	···	···	0.322	-4.838	I	···	CTIO
113701	217487	K1 V+ (k)	···	5128	4.44	1.0	0.07	···	0.254	-4.752	I	···	CTIO
113771	···	K6.5 V (k)	···	···	···	···	···	···	1.199	-4.729	A	···	SO
113860	217792	F1 V Fe-0.8	···	7143	3.96	2.0	-0.30	···	···	···	···	···	SO
113896	217877	G0- V	···	5996	4.31	1.0	-0.20	···	0.179	-4.852	I	···	CTIO
114044	···	K6 V (k)	···	···	···	···	···	···	1.448	-4.535	A	···	CTIO
114110	···	G1 V	*	···	···	···	···	···	0.164	···	···	···	CTIO
114135	218279	K2+ V CN+1	···	···	···	···	···	···	0.188	-4.999	I	···	SO
114156	218294	K6 V k	···	···	···	···	···	···	1.772	-4.496	A	···	SO
114167	218268	F5 V	···	6334	3.69	1.0	-0.02	···	0.241	-4.561	A	···	CTIO
114167	218269	F5.5 IV-V	···	6465	4.18	2.1	-0.08	···	0.218	-4.627	A	···	CTIO
114242	218422	K4 V (k)	···	···	···	···	···	···	0.798	-4.582	A	···	SO
114286	218483	K1 V	···	5023	4.46	1.0	-0.14	···	0.351	-4.585	A	···	CTIO
114291	218522	F6 V Fe-0.7 CH-0.4	···	6488	4.21	2.0	-0.27	···	0.206	-4.672	A	···	SO
114361	218511	K5.5 V (k)	···	···	···	···	···	···	1.089	-4.577	A	···	CTIO
114382	218630	F5 V	···	6426	4.01	2.2	-0.20	···	0.260	-4.499	A	···	CTIO
114411	···	M2 V	···	···	···	···	···	···	···	···	···	···	SO
114416	218572	K3+ V (k)	···	···	···	···	···	···	0.388	-4.724	A	···	CTIO
114424	218730	G0 V	···	5946	4.41	1.0	0.02	···	0.181	-4.855	I	···	CTIO
114455	218760	K3 V (k) Fe-0.3	···	···	···	···	···	···	0.279	-4.843	I	···	SO
114699	219077	G8 V+	···	5177	3.95	1.0	-0.27	···	0.132	-5.203	VI	···	CTIO
114719	-20 6558	M0.5 V k	···	···	···	···	···	···	···	···	···	···	SO
114746	219246	K2.5 V (k)	···	···	···	···	···	···	0.703	-4.367	A	···	SO
114790	219249	G7 V	···	5505	4.59	1.0	-0.35	···	0.165	-4.982	I	···	CTIO
114885	219437	K3 V (k)	···	···	···	···	···	···	0.344	-4.793	I	···	CTIO
114948	219482	F6 V	···	6290	4.22	1.8	-0.09	···	0.300	-4.434	A	···	CTIO
114952	219592	F5 V Fe-0.7 CH-0.4	···	6594	4.24	2.0	-0.29	···	0.398	-4.207	A	···	CTIO
114954	···	M0 V (k)	···	···	···	···	···	···	1.280	-4.823	I	···	SO

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
114980	219495	K4 V k	···	···	···	···	···	···	0.815	-4.589	A	···	CTIO
114986	219509	K3.5 V	···	4564	4.54	1.0	-0.07	*	0.179	-5.155	VI	···	CTIO
114996	219571	F4 V	···	6618	3.82	2.1	-0.23	···	···	···	···	···	CTIO
115013	219630	K6+ V (k)	···	···	···	···	···	···	1.359	-4.675	A	···	CTIO
115054	219693	F4 V	···	6544	3.95	2.0	-0.24	···	···	···	···	···	CTIO
115087	219709	G1 V	···	5766	4.37	1.0	-0.20	···	0.212	-4.743	A	···	CTIO
115123	219764	K5 V (k)	···	···	···	···	···	···	1.201	-4.452	A	···	CTIO
115126	219834A	G8.5 IV	*	5461	3.88	1.0	0.23	···	0.143	-5.130	VI	···	CTIO/SO
115142	219877	F4 V Fe-0.4	···	6775	4.06	2.1	-0.13	···	···	···	···	···	CTIO
115302	···	M1 V k	···	···	···	···	···	···	···	···	···	···	SO
115527	220476	G5 V	···	5603	4.49	1.0	-0.13	···	0.371	-4.413	A	···	CTIO
115713	220729	F4 V	···	6737	4.01	2.1	-0.10	···	···	···	···	···	CTIO
115780	220829	K1 V	···	5012	4.42	1.0	-0.23	···	0.160	-5.085	I	···	CTIO
115781	···	M2.5 V	···	···	···	···	···	···	···	···	···	···	CTIO
115849	220945	K2.5 V	···	4936	4.52	1.0	-0.04	···	0.229	-4.900	I	···	CTIO
115951	221146	G1 V	···	5826	4.17	1.0	-0.04	···	0.155	-5.013	I	···	CTIO
115955	···	K6+ V (k)	···	···	···	···	···	···	1.617	-4.599	A	···	CTIO
116050	221275	G9 V CN+1	···	5303	4.42	1.0	-0.04	···	0.242	-4.757	I	···	SO
116063	221231	G0 V	···	5911	4.45	1.0	-0.11	···	0.277	···	···	···	CTIO
116215	221503	K6 V k	···	···	···	···	···	···	1.883	-4.486	A	···	SO
116250	221420	G2 IV-V	···	5749	3.94	1.0	0.14	···	0.139	-5.151	VI	···	CTIO
116258	221575	K2 V (k)	···	···	···	···	···	···	0.495	-4.468	A	···	SO
116374	···	K5.5 V	···	···	···	···	···	···	0.568	-4.861	I	···	CTIO
116395	221739	K2.5 V (k)	···	···	···	···	···	···	0.661	-4.396	A	···	CTIO
116429	221818	G9 V	···	5316	4.54	1.0	-0.21	···	0.341	-4.543	A	···	CTIO
116436	221839	F7.5 V	···	6012	3.94	1.0	-0.09	···	0.293	-4.472	A	···	SO
116492	···	K4.5 V	···	···	···	···	···	···	0.583	-4.784	I	···	CTIO
116495	221950	F6 V Fe-1.4 comp	···	6396	4.11	1.4	-0.48	···	0.300	-4.395	A	···	CTIO
116745	222237	K3+ V	···	4615	4.66	1.0	-0.58	···	0.231	-4.959	I	···	CTIO
116763	222335	G9.5 V	···	5218	4.56	1.0	-0.17	···	0.192	-4.909	I	···	SO
116819	222422	G8 V	···	5486	4.55	1.0	-0.05	···	0.178	-4.928	I	···	SO
116898	···	M0 V	···	···	···	···	···	···	···	···	···	···	CTIO
116937	222595	G5 V	···	5528	4.54	1.0	-0.12	···	0.197	-4.838	I	···	CTIO
117011	···	K5+ V	···	···	···	···	···	···	0.718	-5.378	VI	···	CTIO
117066	222669	G1 V	···	5838	4.43	1.0	0.00	···	0.201	-4.771	I	···	CTIO
117081	222834	G1 V	···	···	···	···	···	···	0.161	-4.930	I	···	SO
117147	222898	K3 V (k)	···	···	···	···	···	···	0.507	-4.600	A	···	CTIO
117247	223078	K2+ V	···	···	···	···	···	···	0.170	-5.030	I	···	SO
117258	223084	F9 V	···	6082	4.37	1.0	-0.23	···	0.229	-4.634	A	···	CTIO
117404	223282	G8.5 V	···	5383	4.54	1.0	-0.33	···	0.197	-4.872	I	···	SO
117410	-13 6464	K5 V ke	···	···	···	···	···	···	3.294	-4.194	VA	*	SO
117481	223408	F6 V	···	6255	4.18	1.0	-0.17	···	0.319	-4.390	A	···	SO
117542	223515	K0 V	···	5093	4.47	1.0	0.02	···	0.212	-4.868	I	···	SO
117669	223681	K2 V k	···	4898	4.67	1.0	-0.39	···	0.923	-4.201	A	···	CTIO
117697	···	M0.5 V	···	···	···	···	···	···	···	···	···	···	SO

Notes to Table 2

HIP 560 = HD 203: Rotational broadening of 150km/s used in simplex solution.

HIP 2235 = HD 2454: An F5 dwarf with an overabundance of Strontium. Ba II 4554 also appears enhanced.

HIP 3505 = HD 4247: Simplex fit utilized IUE spectrum SWP17039.

HIP 3961 = HD 5028: We were somewhat surprised to find that this metal-weak F6 star turns out to be in the very chromospherically active category. However, visual inspection of the spectrum verifies that the Ca II K & H lines are both shallow. It turns out that this star is both an X-ray source (Haberl et al. 2000) and a far-UV source (Bowyer et al. 1995). Observed 12 Dec, 2002.

HIP 4855 = HD 6156: This star is a close visual double with HD 6156B, which is recorded in Table 1 with a composite spectral type K0 V + K5 V. This composite type is probably due to contamination from the much brighter primary (G9 V), and thus the approximate spectral type for B is about K5 V.

HIP 9711: Supergiant, with a large parallax error: 27.60 ± 21.70mas. Also has quite large proper motions. No clear reason for parallax error. Evidently not within 40pc. Spectrum is peculiar; the hydrogen lines suggest a spectral type of A3 Iab, but no metallic lines, except for the K-line are visible. This is a high-amplitude Hipparcos variable.

HIP 10191 = HD 13513: Triple system. The spectral type for HD 13513 is for AB, HD 13513C is actually CD -36 816C.

HIP 11324 = HD 15146: Poor convergence in simplex fit.

HIP 11964 = HD 16157: This chromospherically very active star was observed on 13 Dec, 2002.

HD 18622: This is not a Hipparcos star, probably because it is too bright. However, its parallax (from the General Catalog of Trigonometric Parallaxes) is 28 ± 11mas.

HIP 16247 = HD 21703: This chromospherically very active star was observed on November 27, 2001.

HIP 16846 = HD 22468: This well-known RS CVn variable shows strong emission in Ca II K & H with infilling in Hβ. The spectral lines appear broad. This chromospherically very active star was observed on December 15, 2002.

HIP 18450 = HD 25004: Ba II λ4554 appears slightly enhanced in this K-dwarf.

HIP19248 = HD 26354: This chromospherically very active star was observed on February 10, 2001.

HIP 20338: This chromospherically very active star was observed on November 27, 2001.

HIP 20968: F9 dwarf with large parallax error: 120.70 ± 56.47mas. Double with HD 28639, a K2 III (Simbad) with $\pi = 2.18$. HIP 20968 likely not within 40pc.

HIP 21756 = HD 30003: Spectrum composite A+B.

HIP 23309: This chromospherically very active star was observed on February 8, 2001.

HIP25486 = HD 35850: This chromospherically very active star was observed on March 13, 2001.

HIP 25627 = HD 36705: This chromospherically very active star was observed on December 11, 2002.

HIP 26369: This chromospherically very active star was observed on February 5, 2001.

HIP 26462: G5 dwarf with large parallax error: 30.99 ± 24.17mas. Double with HD 37761, a G5 III (Simbad) with $\pi = 9.58$mas. Evidently not within 40pc.

HIP 26380 = HD 38283: This chromospherically very active star was observed on December 12, 2002.

HD 38392 = γ Lep B: This star is not in the Hipparcos catalog, but on the basis of its spectral type, apparent magnitude, and association with γ Lep, it must be closer than 40pc. γ Lep A immediately follows this star in the table (HIP 27072).

HIP 27288 = HD 38678: Simplex fit utilized IUE spectrum SWP50070 and $v \sin i = 200$km s^{-1}.

HIP 28103 = HD 40136: Simplex fit utilized IUE spectrum SWP10286.

HIP 28796 = HD 41824: This chromospherically very active star was observed on December 12, 2002.

HIP 29804 = HD 43848: This K2 subgiant shows a strong Swan band at λ4737.

HIP 29964 = HD 45081: This chromospherically very active star was observed on February 9, 2001.

HIP 30314 = HD 45270: G-band in stellar spec-

Table 2—*Continued*

HIP	HD/DM	SpT	N1	$T_{\rm eff}$	$\log g$	ξ_t	$[M/H]$	N2	S_{MW}	$\log(R'_{\rm HK})$	AC	N3	Obs
117815	223913	G0- V	···	5949	4.41	1.0	-0.13	···	0.249	-4.598	A	···	CTIO
117815*	223913B	M1 V	···	···	···	···	···	···	···	···	···	···	CTIO
117880	224022	F9− V	···	6017	4.21	1.0	0.08	···	0.161	-4.948	I	···	SO
117958	224143	G1 V	···	5770	4.49	1.0	-0.10	···	0.302	-4.508	A	···	SO
117966	-06 6318	M2.5 V k	···	···	···	···	···	···	···	···	···	···	SO
118008	224228	K2.5 V (k)	···	···	···	···	···	···	0.618	-4.468	A	···	CTIO
118123	224393	G5 V Fe-0.9	···	5791	4.62	1.0	-0.46	···	0.192	-4.806	I	···	CTIO
118160	···	M0 V	···	···	···	···	···	···	···	···	···	···	SO
118180	···	K6.5 V k	···	···	···	···	···	···	2.142	-4.524	A	···	CTIO
118261	224607	K4 V (k)	···	···	···	···	···	···	0.685	-4.524	A	···	SO
118278	224619	G8+ V	···	5442	4.49	1.0	-0.21	···	0.165	-4.996	I	···	SO

trum is weak compared to simplex-fit model. See spectral type for confirmation of weak G-band.

HIP 30362 = HD 256294: This star, classified as B9 III, forms a faint triple with HIP 30365 (K1 III-IV) and a third star, BD +08 1303B. The two Hipparcos stars have large parallax errors. Judging from their spectral types and magnitudes, these stars lie well beyond 40pc.

HIP 30476 = HD 45289: A solar twin.

HIP 31711 = HD 48189: G-band in stellar spectrum is weak compared to simplex-fit model. See spectral type for confirmation of weak G-band.

HIP 37606 = HD 62644: Weak Ca I 4227.

HIP 40706 = HD 70060: Simplex fit utilized IUE spectrum SWP56381.

HIP 40769 = IDS 08186-6729A: This star has a faint companion about $33''$ due south which is not included in the HIP 40769 designation, but which is designated IDS 08186-6729B, and also LDS 215B. For this companion, we have left the HIP column blank, but have placed the designator "B" in the second column.

HIP 42291 = HD 73524: Ca I strong, but G-band slightly weak for the spectral type.

HIP 43290 = HD 75519: Photometry residuals high in simplex fit.

HIP 44713 = HD 78429: Photometry residuals high in simplex fit.

HIP 45238 = HD 80007: Simplex fit utilized IUE spectra LWP8843 and SWP43459.

HIP 45940 = HD 81639AB: The similarity of the spectral type of the companion of HD 81639 (G8 V) to the primary (G7 V) coupled with the magnitude difference (≈ 4 in V) according to Simbad suggests substantial contamination from the primary in the spectrum of the secondary.

HIP 50798 = HD 90034B: K0 giant star with a large parallax error: 98.17 ± 79.48mas. The A component (HIP 50804 = HD 90034A) is an A3 IV-V star (this paper). Its parallax is $\pi = 3.29$mas. It is not clear if this is a physical double.

HIP 52341: A visual double star; the eastern component is the brightest and is designated "A" by Simbad. However, Simbad seems to have mixed the spectral types of the two stars: "A", the eastern companion is M2.5 in Simbad, B is K7.

HIP 54298: F5 dwarf with large parallax error: 155.28 ± 78.30mas. Double with HD 96507, B9 III (Simbad) with $\pi = -0.20$mas. Evidently not within 40pc.

HIP 54806 = HD 97578: Carbon star with large parallax error: 31.18 ± 14.06mas. No clear reason for parallax error.

HIP 55031: F6 peculiar star with large parallax error: 43.57 ± 35.81mas. Variable star. Has a number of faint companions which probably account for parallax error.

HIP 55705 = HD 99211: Simplex solution utilized IUE spectrum SWP44997.

HIP 56280 = HD 100286: Ca I 4226 peculiarly weak. This star is a near-equal visual double with HD 100287 which does not appear in the Hipparcos catalog, but which is included in the HIP 56280 designation.

HIP 57363 = HD 102249: Simplex fit utilized IUE spectra LWP13333 and SWP33671.

HIP 58240 = HD 103742: Is a wide visual double with HIP 58241 = HD 103743. G-band weak in stellar spectrum compared with simplex-fit model.

HIP 59199 = HD 105452: Simplex fit utilized IUE spectrum SWP44996.

HIP 59750 = HD 106516: Both the SO and the CTIO spectra agree that this metal-weak F9 dwarf is a chromospherically active star. The CTIO spectrum, obtained on December 14, 2002 gives $\log(R'_{HK}) = -4.158$ (very active) and the SO spectrum, obtained on April 9, 2001 gives $\log(R'_{HK}) = -4.410$ (active). This star is an X-ray source, and *may* have been the source of the January 13, 1993 gamma-ray burst (see Shibata et al. 1997).

HIP 60553: This chromopherically very active star was observed on February 8, 2001.

HIP 60853 = HD 108564: This is a very metal-weak K5 star. The radial velocity of this star (110 km s^{-1}) implies it is a member of the halo.

HIP 60965 = HD 108767: Simplex fit utilized IUE spectrum SWP18885 and $v \sin i = 200$km s^{-1}.

HIP 61174 = HD 109085: Simplex fit utilized IUE spectrum SWP55354.

HIP 62333 = HD 110971: This chromopherically very active star was observed on February 10, 2001.

HIP62403 = HD 111038: Violet end of spectrum appears veiled, perhaps due to chromospheric activity. This may have affected simplex solution.

This very chromopherically active star was observed on February 10, 2001.

HIP 63033 = HD 112164: Spectrum appears peculiar, and possibly composite. Metals are about as strong as a G2 V, but enhancement in the metallic line strengths depends on the wavelength. The Simplex fit suggests this star is metal-rich ([M/H] = 0.22), which gives an excellent fit to the stellar energy distribution from the UV to 12μm. There is no indication of chromospheric activity – indeed we classify this star as being in the "Very Inactive" class.

HIP 64478 = HD 114630: The entire spectrum appears "veiled". The low-excitation/resonance lines (such as Ca I, Fe I 4046, etc.) are particularly weak, the cores of Ca II K & H are shallow, and Hβ appears slightly filled in. The simplex solution is suspect because of this "veiling". This star is a well-known chromospherically active binary.

HIP 66182: F5 dwarf with large parallax error: 59.10 ± 114.46mas. Double with HD 117809, G8 III (Simbad) with $\pi = 1.93$mas.

HIP 69562 = HD 124498: This chromopherically very active star was observed on June 5, 2001.

HIP 69578: B2 giant with large parallax error: 64.68 ± 46.97mas. Double with HD 124237, B5 V (Simbad) with $\pi = 2.21$mas. HIP 69578 is clearly a double-lined spectroscopic binary from our spectrum.

HIP 71686: This star is listed as the CD component of the visual multiple star, ADS 9330. The A component, also in Table 1, is HD 128787. The B component is a faint close companion to A, whereas CD is located about $2'$ to the NE of A.

HIP 71908 = HD 128898: broad Ca II K-line.

HIP 72399 = HD 130260: visual double with HIP 72400. This chromopherically very active star was observed on August 8, 2001.

HIP 72685: F9 dwarf with large parallax error: 25.68 ± 8.87mas. Double with HD 130922, F5 (Simbad) with $\pi = 8.26$mas.

HIP 74815: This chromopherically very active star was observed on June 5, 2001.

HIP 74824 = HD 135379: Simplex fit utilized IUE spectra LWP25218 and SWP47375.

HIP 75255 = HD 136466: large photometry residuals in the simplex fit.

HIP 76362: K1 giant with large parallax error: 99.90 ± 61.26mas. Double (probably optical) with HD 137388, K2 IV (this paper) with $\pi = 26.01 \pm 1.88$. HIP 76362 is about 1.8 mag fainter than HD 137388, despite more luminous spectral type. Hence, likely optical double.

HIP 76550: Peculiar morphology in the MgH band (violet side weak), seen in both CTIO and SO spectra.

HIP 76629 = HD 139084: This chromopherically very active star was observed on August 10, 2001.

HIP 79958 = HD 146464: This chromopherically very active star was observed on August 3, 2001.

HIP 80062 = HD 147104: This star forms a visual double with HIP 80063, which has a Hipparcos parallax of -1.46 ± 3.43mas. HIP 80062 itself has a Hipparcos parallax of 26.78 ± 7.79mas. Both stars are clearly more distant than 40pc.

HIP 80381 = HD 147555A: Double with HIP 80383, which is a fainter star to the south and east of HIP 80381. Note, however, the earlier spectral type of HIP 80383, which is unexpected if the pair is a physical double. However, the identification is positive. Simbad records a spectral type of K5 for HIP 80381, similar to our spectral type of K6 V, but does not record a spectral type for HIP 80383.

HIP 81407 = HD 149606: Large photometric residuals in the simplex solution.

HIP 81478 = HD 149499: This chromopherically very active star was observed on August 10, 2001.

HIP 82588 = HD 152391: Large photometric residuals in the simplex solution.

HIP 82725: Faint K0 subgiant with large parallax error: 203.01 ± 29.27mas. Double with CCDM J16545-6224A, HIP 82724. No spectrum available for HIP 82724, which has a comparably large parallax and error.

HIP 83513 = VdBH 81d: F3 subgiant with large parallax error: 29.70 ± 15.98mas. Is in a compact cluster within VdBH 81i reflection nebula. Close proximity of cluster members undoubtedly accounts for large parallax error. Almost certainly outside 40pc.

HIP 83541 = HD 154088: Large photometric residuals in the simplex solution.

HIP 83990 = HD 154577: Peculiar energy distribution. Region around Hβ appears weak-lined.

HIP 84084: F5 dwarf with large parallax error: 54.25 ± 56.24mas. Double with HD 155133, K2

(Simbad) with $\pi = 1.68$mas.

HIP 84586 = HD 155555 = V824 Ara: RS CVn type variable. This chromopherically very active star was observed on June 25, 2002.

HIP 85019 = HD 157060: Noisy spectrum; luminosity class uncertain.

HIP 86057: Close visual double not referenced as such in Simbad. Components labeled in the table according to relative brightnesses. "A", the M1.5 V star is the brighter of the two, and is situated about 4 arc seconds to the south and east of the fainter B component. The two components are not resolved on the second Digital Sky Survey. The faint star that does appear on the DSS2 about 12 arc seconds to the north and east of HIP 86057 is not the component we observed.

HIP 86486 = HD 160032: Our CTIO spectrum is too noisy for spectral classification. We have used the spectral type from Gray (1989).

HIP 86489: K2 giant star with large parallax error: 28.57 ± 29.19mas. Double with HD 160150, F3/5 II (Simbad) with $\pi = 1.42$mas.

HIP 87000: A star with a large parallax error: 27.84 ± 40.94. Simbad lists a spectral type of G5 for this star, which is in conflict with our type of A1 III-IV. The star HD 161487 is located 22 arc seconds to the south and west of HIP 87000, but has a spectral type of F3 V, so it is not likely the source of confusion.

HIP 87784: K2 giant with large parallax error: 31.55 ± 18.42mas. Double with HD 162157, G8 III (simbad) with $\pi = 5.85$mas.

HIP 88908 = HD 165814B: The nomenclature in Simbad for this star appears to be confused. This star is labeled HD 165530B in Simbad, but HD 165530 is located about $22'$ to the east. HIP 88908 is about $15''$ to the NE of HD 165814. The telescope coordinates in the FITS header for our spectrum of HIP 88908 agree with this star being proximate to HD 165814, and also agree with the coordinates given in Simbad for HD 165530B. HD 165814 has a parallax of 1.03 ± 2.13mas. HIP 88908 has a parallax of 36.65 ± 9.63mas. However, based on its magnitude and spectral type, this star (like HD 165814, its companion) is more distant than 40pc.

HIP 90706: A close visual double. The "B" component, which is the fainter, is located a few arc seconds to the north and east of A.

HIP 90724 = HD 170368: This is a visual double with a star about 8 arc seconds to the NNW. This star, labeled HD 170368B in the table also has the designation CD-36 12714B. This star is a G5 III (this paper).

HIP 92024 = HD 172555: Simplex fit utilized the IUE spectrum SWP45799.

HIP 92742 = HD 174545: Large photometric residuals in the simplex fit.

HIP 93174 = HD 175813 = ϵ CrA: This is a W UMa type eclipsing binary.

HIP 93449 = R CrA: A variable B-type emission-line pre-main-sequence star in a nebula. Hipparcos parallax has large error: 121.75 ± 68.24mas.

HIP 96635 = HD 185181: This is a chromospherically active subgiant K2 star and thus a possible PMS star. Note that Koen & Eyer (2002) have found that this star is a variable from Hipparcos photometry, but were unable to determine the type of variability. This star was observed from CTIO on June 24, 2002, ($\log(R'_{HK}) = -4.170$) and from SO on June 19, 2002, giving $\log(R'_{HK}) = -4.201$.

HIP 96643 = HD 185342B: An F2 dwarf with a large parallax error: 29.48 ± 26.57. This star is a wide visual double with HD 185342A, an A1 V dwarf (this paper). The "A" component has a parallax of 9.02 ± 2.40mas. Both stars thus probably beyond 40pc.

HIP 98470 = HD 189245: This chromospherically very active late F-type star was observed on June 6, 2001. This star is an extreme ultraviolet source, a variable star and a rapid rotator (86 km s^{-1}).

HIP 102119 = HD 196998: This chromospherically very active star was observed on June 6, 2001.

HIP 102125 = HD 196067: Primary component in a visual binary with HIP 102128 = HD 196068. HD 196068 is formally within our sample, as its parallax is 25.35 ± 7.35mas, but HD 196067 is outside, with a parallax of 22.95 ± 2.10mas. The photometry residuals in the simplex fit for HD 196068 are high, perhaps due to contamination from primary?

HIP 102333 = HD 197157: Our CTIO spectrum of this star is too noisy for accurate spectral classification. The listed spectral type (A9 IV) is from Gray & Garrison (1989). The simplex solution. likewise, is uncertain.

HIP 105441 = HD 202746: The violet end of this spectrum appears veiled, and the photometric residuals for the simplex fit are high.

HIP 107427: An F5 dwarf with a large parallax error: 47.82 ± 32.04mas. This star is an astrometric binary, which explains the erroneously large parallax (Makarov & Kaplan 2005).

HIP 108416 = HD 208573: Photometric residuals for the simplex fit are high.

HIP 109427 = HD 210418: Simplex fit utilized IUE spectra LWP15565 and SWP36316.

HIP 109670: A metal weak G5 dwarf with a large parallax error: 44.20 ± 16.43mas. This star appears single on the Digitized Sky Survey[4] and is not a known astrometric binary, so the large, and probably erroneous parallax is not explained.

HIP 110468 = HD 212038: Photometric residuals for the simplex fit are high.

HIP 110719 = HD 212168B: A close visual double with HD 212168. Sinachopoulos (1989) concludes this double is optical. The "B" component has Strömgren uvby colors which are much too red for a G0 dwarf. Since "A" is also a G0 dwarf and is about 2.7 mag brighter, this is undoubtedly an optical pair.

HIP 110922: A close visual double. "A" is the most northerly of the two almost identical stars.

HIP 111870 = HD 214615AB: We have spectra for both components of this nearly equal close visual binary. The spectra are almost indistinguishable. The Simplex solution was carried out using the spectrum for HD 214615A and the composite *uvby* and Cousins *RI* photometry, with V increased by 0.7mag.

HIP 113368 = HD 216956: Simplex solution utilized IUE spectra LWP10680 and SWP30894.

HIP 114110: Is a double with HD 218251, which is not in our sample ($\pi = 13.26$mas). HIP 114110 has a parallax with a large error 216.52 ± 18.28mas. This G1 V star has V = 10.2, and thus is undoubtedly beyond 40pc. Hence the parallax is entirely erroneous.

HIP 114986 = HD 219509: Photometic residuals for the simplex fit are high.

HIP 115126 = HD 219834A: Double with HIP 115125 = HD 219834B. The spectral type reported in the table is for the A component only. We have a very noisy spectrum for the B component. The spectral type is approximately K2 V, with significant uncertainties.

HIP 117410: This chromospherically very active star was observed on September 9, 2001.

[4]The Digitized Sky Survey was produced at the Space Telescope Science Institute under U.S. Government grant NAG W-2166

References

Bowyer, S., Sasseen, T.P., Wu, X. & Lampton, M. 1995, ApJS, 96, 461

Gray, R.O. 1989, AJ 98, 1049.

Haberl, F., Filipović, M. D., Pietsch, W. & Kahabka, P. 2000, A&AS 142, 41

Koen, C. & Eyer, L. 2002, MNRAS, 331, 45

Makarov, V.V & Kaplan, G.H. 2005, AJ, 129, 2420

Shibata, R., Murakami, T., Ueda, Y., Yoshida, A., Tokanai, F., Otani, C., Kawai, N. & Hurley, K. 1997, ApJ, 486, 938

Sinachopoulos, D. 1989, A&AS, 81, 103

Table 5
Solar Analogues

HIP	HD	Notes
699	361	*
1444	1388	D
1954	2071	*D
3578	4392	
6455	8406	*
7822	10370	
14501	19467	*D
18844	25874	**D
26394	39091	EP
27058	38277	*
27244	38973	D
30104	44594	**D
30476	45289	**D
30503	45184	**D
34879	55693	*D
36512	59967	**
39330	66653	**
40283	68978	D
41317	71334	**D
42291	73524	D
44713	78429	**D
50075	88742	D
53837	95521	*
54287	96423	D
55900	99610	D
60370	107692	*D
60729	108309	*D
62345	111031	D
66047	117618	D
70459	125881	D
74273	134060	D
74389	134664	**
77740	141937	EP
78169	142415	D
79578	145825	**D
79658	146070	*
86991	160859	*
89042	165499	
90223	168871	D
91287	171665	D
94154	177409	
96901	186427	*D
97405	186853	
98589	189625	**D
98621	188748	
98813	189931	*
98959	189567	**D
101905	196390	D
102128	196068	D
103654	199190	D
105184	202628	**D
105214	202457	
106213	204385	D
107620	207043	
107649	207129	D
108158	207700	D
109821	210918	**D
110712	212168A	D
113357	217014	EP

Table 5—*Continued*

HIP	HD	Notes
114424	218730	D
117066	222669	*

Note.—Symbols in the notes column have the following meanings: *; A solar analogue with spectral type within 1 subclass of the sun. **; A candidate solar twin with spectral type, and physical parameters very similar to that of the sun. D; A star which is already in the Keck, Lick & AAT doppler planet-search program (see Valenti & Fischer 2005). EP; A star with a known exoplanet.